





Animal Keepers' Forum



Dedicated to Professional Animal Care

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Edited by Ron Kaufman, Topeka Zoological Park

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DEADLINE FOR EACH EDITION OF AKF IS THE 20th OF THE PRECEDING MONTH...

SCOOPS and SCUTTLEBUTT

ERNST M. LANG RECEIVES CONSERVATION MEDAL *from the San Diego Zoo*

Professor Dr. Ernst Lang, director of the Basel (Switzerland) Zoo, has become the 24th recipient of the Zoological Society of San Diego's gold conservation medal. San Diego Zoo director Charles Bieler presented the award November 12 at a meeting of the International Union of Directors of Zoological Gardens in Caracas, Venezuela.

The Zoological Society of San Diego annually awards one or more gold conservation medals to the persons whom it desires to acknowledge and honor as leaders in the wildlife preservation field. Recipients are chosen for their lifelong devotion to the cause of wildlife conservation or for notable contributions to the field. The first gold conservation medals were awarded in 1966 as part of the San Diego Zoo's fiftieth anniversary commemoration.

Under Professor Lang's direction, the Basel Zoo has become world famous for the breeding of Indian rhinoceros, lowland gorillas, pygmy hippopotamus, spectacled bears and flamingos.

Professor Lang was president of IUDZG from 1965 to 1967. He serves on a number of committees of the International Union for the Conservation of Nature and Natural Resources. He has been associated with the University of Basel since 1963, and in 1972 he was named a professor of zoo biology.

KOALAS DEATH CAUSE PROBED *from the San Diego Zoo*

A detailed investigation into the cause of death of Audrey, one of the Zoo's koalas, has shown that the intestinal inflammation that was the immediate cause of death was complicated by a virus infection which destroyed a large part of her liver.

Audrey was one of six koalas which arrived at the Zoo July 27 as a Bicentennial gift from Australia. She died November 26, 1976.

The effects of the suspected viral disease and the fact that Audrey had an offspring who was still nursing, combined to make her more susceptible to the inflammation caused by Pseudomonas. Her baby is being raised at the Zoo's hospital and shows no signs of illness.

SOLENODON DIES AT NATIONAL ZOO *from the AAZPA Newsletter, Dec.*

The last captive Hispaniolian solenodon *Solenodon paradoxus*, in the U.S. died September 13, 1976. It had lived at the National Zoo for 9 years.

Solenodons are classified as "endangered" due to land development, loss of forests, increasing human population, and predation by dogs.

CHIMP ART MAKES HISTORY

A story carried in Information Report of the Animal Welfare Institute in Vol. 25 Number 3 of the same details a story which appeared in the London *Sunday Times* of July 25, 1976 and penned by Peter Watson. It was entitled "I've drawn a bird, says Moja the chimp...Why this drawing makes history."

continued next page

Moja is a three and one-half year old chimp and one of several apes in a research project at the University of Nevada. The project is run by Allen and Beatrice Gardner. The chimp is trained to "talk" using sign language.

Moja had been painting the usual random series of strokes and lines when she suddenly switched her style for one drawing. When she was finished, she resumed the random strokes on more drawings. Her teacher then asked her what the drawing was that was so different. Without hesitation, the ape signed "Bird."

According to the story, this is the "first recorded example of an attempt at representational art by an animal other than a human being."

Since April, the story relates, Moja has drawn a bird several times and a cat and also a strawberry.

BIRTHS HATCHINGS

WEST AFRICAN DWARF CROCODILES HATCH AT OVERTON PARK ZOO

*from Andy Vernon, Reptile Keeper,
Overton Park Zoo and Aquarium*

On September 4, 1976, eight West African Dwarf Crocodiles *Osteolaemus tetraspis* hatched at Overton Park Zoo, Memphis, Tenn. On June 9, 1976, seventeen eggs were deposited and covered in a nest of shredded bark. The eggs were removed immediately and placed in a ten gallon aquarium containing 2 to 3 inches of vermiculite, and then placed in a plastic bag. During the 87 day incubation period the temperature was kept between 80 and 84 degrees F.

The eight young were completely emerged by late afternoon of September 4. The remaining eggs were opened the following day showing no signs of fertilization.

This is believed to be the third hatching of the West African Dwarf Crocodile in captivity.

GLADYS PORTER ZOO RECORDS RARE NEW ARRIVALS

*from Zoo News, Gladys
Porter Zoo, Brownsville,
Texas.*

The Gladys Porter Zoo has become the first U.S. zoo to reproduce the Fer-de-lance *Bothrops atrox* in captivity. The genus *Bothrops* has long been considered as extremely difficult to maintain in captivity.

The birth took place on October 9, 1976. 22 live, normal babies were born and two others were stillborn.

The Zoo has also recorded the hatching of the rare Texas kingsnake *Lampropeltis mexicana*. Three young hatched on September 23, 1976.

A pileated gibbon *Hylobates pileatus* has been born at the Zoo. The one-pound female, named Ila, was born on September 29, 1976

Reptile Amphibian Potpourri

by Bela Demeter, National Zoo

Measuring snakes has always been somewhat of a problem for herpetologists that I'm sure has been solved in various ways. One of our readers has remarked that no matter how straight he was able to stretch the animal out, he always got the feeling that there were a few kinks that weren't accounted for. Well, I don't think it really makes a whole lot of difference when you're measuring large snakes or even small ones, unless you are doing an experiment and want the data to be as accurate and consistent as possible. We are using a technique for small to medium sized snakes that Sam Davis, a fellow keeper and R.A.P. consultant, has devised in connection with growth studies he is doing with corn snakes.

All you need is a foam rubber pad, a sheet of clear plexiglas, a felt-tip pen, string and, of course, a ruler. Take the snake you want to measure and lay it on the foam rubber pad. It doesn't matter how straight the snake is. Place the plexiglas on the snake, sandwiching it between the pad and the plexiglas. You can use glass if you want to, but if it should break while you're pressing down on the snake, you could hurt yourself and the animal. Trace the snake's mid-dorsal line from snout to tail on the plexiglas with the felt-tip pen. After you remove the snake, simply take the string and lay it over the line you just made, taking care to follow the curves. Pull the string taut and measure it. Works every time!!! That should give you a very accurate measurement with a minimum of coaxing and stretching.

You're probably wondering, *"Why not just measure the snake directly and cut out the felt-tip pen?"* Be nice to your animals, don't keep them under glass any longer than necessary. You can trace much faster with the pen than you can lay out with the string and the plexiglas can be wiped clean afterward. If you have more than one snake to measure, do several in a row and mark both ends of the line so you know which is which.

This is a particularly handy technique for small, venomous snakes; as you'll decrease the chance of trauma to both the snake and yourself. Some snakes, however, don't lend themselves too well to this method... large pythons and such, obviously. But we've also had some smaller *Crotalus* that didn't want to stay under the glass. You'll have to experiment with several animals and see for yourself which ones it works best with. Better still, get some lizards, they're easier to handle.

DIRECT ALL COMMENTS TO R.A.P., DIVISION OF REPTILES AND AMPHIBIANS,
NATIONAL ZOOLOGICAL PARK, WASHINGTON, D.C. 20009

Frank Slavens, a keeper at the Woodland Park Zoological Gardens, is compiling a guide to breeding potential for reptiles and amphibians in the United States. AAZK would like to assist this worthwhile project in every way possible, through AKF. If your zoo hasn't sent copies of its herptile inventory to Frank yet, would you try to do so as soon as possible? If he can get these inventories early in January, he may have the guide compiled by Spring. Frank would also like to have any good keys our readers might have for the common boa (*Boa constrictor*), except for Peters' key in *Neotropical Squamata*.

THE ADDRESS IS 5400 PHINNEY AVENUE, NORTH SEATTLE, WASHINGTON 98103



AMERICAN ASSOCIATION OF ZOO KEEPERS

from the President

Bela J. Demeter

Bela Demeter

THE FOLLOWING IS PUBLISHED FOR THE INFORMATION OF THE MEMBERS OF AAZK.

Mr. Joe Tanner, Commissioner
Georgia Department of Natural Resources
270 Washington Street, S.W.
Atlanta, Georgia 30315

Dear Mr. Tanner:

One of the functions of the American Association of Zoo Keepers is to support valid and deserving projects of conservation. I have recently had the opportunity to study Howard Lawler's proposal for the protection and management of the Eastern Indigo Snake *Drymarchon corais couperi* in the state of Georgia. The conclusions Mr. Lawler reaches are, in my opinion, valid and deserving of serious consideration by the Georgia legislature.

The Board of Directors of AAZK is in unanimous support of this proposal to extend complete protection to the Indigo Snake. We also favor a ban on the use of chemicals such as gasoline to capture these or any other animals.

This is a very important issue about which AAZK is deeply concerned. Favorable legislation by Georgia protecting the Indigo Snake can only have a positive influence in other areas of the country as well where other forms of wildlife are becoming threatened. We are very fortunate to have people such as Mr. Lawler and the rest of the herpetological staff at the Atlanta Zoo who are dedicated and interested enough to bring these issues to the foreground. I would appreciate your forwarding this letter to the Natural Resources Board.

Sincerely yours,

Bela J. Demeter
President, AAZK

NATIONAL HEADQUARTERS
National Zoological Park · Washington, D.C. 20009

Veterinarians and Keepers.....

by Joseph T. Bielitzki, DVM, MS,
Topeka Zoological Park

ZOONOSES AND THE ANIMAL KEEPER

A group of diseases are transmitted between animals and man; collectively they are known as zoonoses. In a zoological garden, where close contact is common between man and animal, the possibility of disease exchange is great. Most frequently we think of what we can get from the animals in the collection. But, perhaps we need to consider the opposite...what we might give to the animals.

Most important, in this regard, is probably the primates. A large number of viral and bacterial diseases can be readily transmitted from man to primate. Quite often we think of tuberculosis, but with current health precautions this possibility is greatly minimized. The animals in our charge are not going to become infected with what we expect, rather with what we don't expect. There are a host of viral diseases which are common in man and are relatively non-pathogenic but which can do considerable damage in primates. For example, measles, mononucleosis, influenza the common cold and *Herpes simplex* are everyday occurrences to us. But, do we ever work around primates when we know that we are ill?

Besides just considering ourselves and our infectious potential, it is necessary to also consider what is around us. Those persons with whom we live can also infect animals which they never see, if we carry viral particles from home to work in clothing, shoes or even in a lunch box. This applies particularly to childhood diseases, i.e. rubeola, measles, chicken pox, mumps, whooping cough, etc.

If you have stopped looking around you, start again. What about the household cat or dog...are their vaccinations up-to-date? Members of Felidae, Canidae, Ursidae, Viverridae, and Mustelidae are all susceptible to various common cat and dog diseases, like feline distemper, canine distemper and feline respiratory viruses. Little research has been done on the exotic animals' susceptibility to some of the less common viral diseases of domestic pets, but you can bet that at least a few creatures in the zoo could contract clinical disease under the correct conditions.

Do you live on a farm or keep livestock on the side? Here is another area for possible disease transmission. The Artiodactyla have demonstrated antibody to a number of diseases common in cattle and sheep. At the top of the list are diseases like infectious bovine rhinotracheitis, bovine viral diarrhea and shipping fever from cattle, blue-tongue, maedi and contagious ecthyma from sheep. Many of the Perissodactyla are susceptible to equine viruses. Those most easily carried from stable to work are probably equine rhinotracheitis and equine influenza. If you're from a farm, try not to wear the same boots at home and at the zoo. Parasite ova are easily carried for long distances in minute amounts of feces. Bacteria and viruses can also be carried this way. This also applies to chickens and turkeys. There are a large number of diseases which can be transmitted from the farm flock to the zoo bird.

In most cases, common sense should dictate how you handle a given situation. If you do have a sick animal at home or have had contact with one mention it to a supervisor. A healthy collection is everyone's job...

SECTION II - EDUCATIONAL BACKGROUND

1...no information
 1...seven grammar school 25%
 44...high school
 136..college education 75%

Of the 136 keepers who have a college background, the breakdown according to the number of years completed was...

21...one year 15%
 27...two years 20%
 20...three years 15%
 50...four years 37%
 18...graduate school 13%

34 different majors were listed. Some listed two or more subjects. The majority related directly to animals...

Biology	Animal Science	Animal Nutrition
Zoölogy	Anthropology	Ethology
Wildlife Biology and Conservation	Primatology	Reproductive Physio-
Animal Behavior	Pre-Vet Med.	logy
Environmental Studies	Oceanography	

Four surveys listed Biological Parks Training and Development, and Zoo Operations and Animal Management as majors. Other subjects ranged from accounting to sociology.

93 keepers (50%) are continuing their education. Some indicated they are utilizing more than one method...

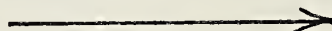
39...coursework
 64...self-directed studies
 24...research projects
 26...seminars/conferences
 3...other (trade schools, AAZPA
 Management School)

SECTION III - ORGANIZATIONAL MEMBERSHIPS

AAZK Memberships	135...yes 74%	Number of years as AAZK Member
	47...no 26%	
Attendance at AAZK Conferences		53...one year 39%
		27...two years 20%
41...have attended 23%		34...three to five years 25%
137...have not attended 75%		21...six to nine years 16%
4...no reply 2%		

The conferences attended were...Fresno, Topeka, Seattle, New York, Hawaii, Boise, Chicago and Wichita. Chicago was the best attended by survey participants.

survey continues on next page...



AAZPA Memberships	39...yes	22%	Other Wildlife Organization
	139...no	76%	Memberships
	4...no reply	2%	
			94...yes 52%
			88...no 48%

Of those who indicated that they had memberships in other wildlife organizations, many listed more than one. The most frequently listed were,

Audubon Society	American Federation of Aviculture
World Wildlife Fund	and other ornithological groups,
National Wildlife Federation	International Wildlife Federation
Wildlife Preservation Society	East African Wildlife Society
Defenders of Wildlife	local Zoological Societies
Canadian Wildlife Fund	local game associations
Herpetological societies and others	

SECTION IV - TRAINING AND RELATED DATA

Training as a new keeper	On-going training for all personnel
--------------------------	-------------------------------------

124...yes	68%	60...yes	33%
50...no	28%	102...no	56%
8...no reply	4%	17...no reply	9%
		3...being started	2%

Methods of Training...Some Checked Several Categories...

38 classes	22 films and slides
168 on-the-job training	15 seminars and conferences
36 keeper manuals	3 other (lab animal course, research and volunteer work)

Previous Experiences Beneficial in Roles as a Keeper...

School: science courses, high school/vocational education and extensive reading prevailed.

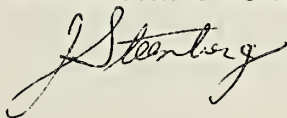
Work: The information regarding work experience was similar to that given in Section I.

Hobbies and Other: Most additional information was given in these two categories, some of which were unusual...

Statistics	Boy Scouts of America	Associations
Photography	Instructor/Chimp Sign	Connections, Friends
Nursing and Nurse Aide	Language	Outdoor Activities
Volunteer Work	Visiting Zoos	Farrier
Artist	Public Speaking	Scuba Diving
Modelling	Belly Dancing	Falconry
Plants and Greenhouse	T.V. and Wildlife Films	Judo
Taxidermy	Zoo family	Sports
Zoo Answer Man	Architecture	Hand-writing Analysis

...and, perhaps the most unusual and thought-provoking...MOTHERHOOD!!!!

A sincere thanks to all who participated in this survey. The surveys have been mailed to AAZK National Headquarters in Washington for future reference...



NATIONS MOVE CLOSER TO ELIMINATING COMMERCE AS THREAT TO ENDANGERED SPECIES

Significant progress in regulating trade in the world's wild plants and animals has been made at a 37-nation meeting aimed at speeding implementation of an international treaty on endangered species.

The conference, held November 2 to 6 in Berne, Switzerland was the first since 80 nations negotiated the Convention on the International Trade in Endangered Species of Wild Fauna and Flora in 1973. The treaty seeks to eliminate commercial trade as a cause of the decline in any species. Thirty-three nations have ratified the treaty, and 24 of those were represented at the Berne meeting. Thirteen other countries who have not yet ratified also sent observers as did many other organizations.

Many of the administrative and procedural decisions made at the meeting, along with changes in listed species, may have a wide ranging and significant impact on various interests with the United States. In addition, they also aid law enforcement and allow increased monitoring of commerce in wild plants and animals. The changes become effective in the United States early next year when regulations implementing the treaty become final.

The Convention agreed to over 100 changes in the appendices of listed species. In addition, detailed criteria were established for listing or delisting species. Efforts were also made toward developing standardized identification aids, guidelines on the care and shipment of live specimens, and solving other legal and administrative problems.

ORNITHOLOGICAL DETENTE

A United States-Soviet Union treaty on the conservation of migratory birds and their environment, signed in November in Moscow, is the newest in a series of international agreements designed to protect wildlife.

The treaty, signed in Moscow on November 19, 1976, extends the protection provided many species of birds and provides a means for U.S. and Soviet scientists to cooperate in the conservation of these birds and their habitats. The treaty covers more than 200 species of birds.

ALABAMA SALAMANDER ADDED TO THREATENED LIST

The Red Hills salamander, a dark brown, seven inch amphibian which inhabits the moist, cool forest floors of south-central Alabama, has become the first amphibian to be placed on the U.S. list of threatened species.

ANIMAL WELFARE LEGISLATION AND THE 94th CONGRESS

by Tom Goldsberry,
Washington Park Zoo,
Portland, Oregon

The ninety-fourth Congress is now history. Almost 25,000 bills were introduced during this session. Of these 25,000 approximately fifty-five were in the area of animal welfare.

The Congressional Research Service, which compiles all the major legislation of each Congress, places all animal welfare legislation under the rather ominous heading of "Medical Research and Technology". The CRS states in part: "Concern over adequate facilities at zoos and aquariums is increasing. It has been suggested that expanding public support could turn zoos into research centers, thereby making the animals accessible for the types of biomedical research for which the objections have been raised."

Of course, all animal welfare legislation doesn't affect zoos per se, but, often a bill aimed at correcting animal abuse in some other area, i.e. the pet trade, will have an adverse affect on zoos, too. Also, many of the bills died in committee or were shelved indefinitely. The complete list is as follows.

H. Con. Res. 42 *Whitehurst*
Concurrent resolution pertaining to the methods used on animals in research. IDENTICAL RESOLUTIONS...H. Con. Res. 229 and H. Con. Res. 410.

sale or other distribution in interstate commerce of live creatures intended to be offered as household pets, if they are determined to be infected with serious diseases injurious to human beings.

H.R. 3900 *St. Germain*
Would prohibit the military departments from using dogs in connection with any research or other activities relating to biological or chemical warfare agents. IDENTICAL BILLS ...H.R. 4137, H.R. 7981, H.R. 8052, H.R. 8623, H.R. 8706, H.R. 8844.

H.R. 70 *Dingell et al*
Would establish a Federal Zoo Accreditation Board in order to ensure that zoos and other animal display facilities maintain minimum standards of care for animal inventories, and provide technical and financial assistance to zoos.

H.R. 8824 *Minish*
Would prohibit the use of dogs by the Dept. of Defense in connection with the research, testing, development, or evaluation of radioactive, chemical or biological warfare agents, and require the Dept. of Defense to develop and use, where feasible, alternative, non-animal methods of experimentation. IDENTICAL BILLS... H.R. 9050, S. 2081.

H.R. 1154 *Whitehurst*
Would provide assistance to zoos and aquariums, establish standards of accreditation for such facilities, and establish a Federal Zoological and Aquarium Board. IDENTICAL BILL...H.R. 4030.

H.R. 4373 *Derwinski*
Would provide assistance in improving zoos and aquariums by creating a National Zoological and Aquarium Corporation.

H.R. 1068 *Sullivan*
Diseased Pet Act. Would protect the public health by providing authority to regulate or prohibit the transportation,

H.R. 6631 *Dingell*
Would establish a Federal Zoological Control Board in order
continues on
next page...

to ensure that zoos and other animal display facilities maintain minimum standards for the humane care and husbandry of animals, and provide technical and financial assistance to zoos.

H.R. 1152 *Whitehurst*

Would amend the Federal law relating to the care and treatment of animals to broaden the categories of persons regulated under such law, assure that birds in pet stores and zoos are protected, and ensure increased protection for animals in transit. IDENTICAL BILLS ...H.R. 4027, H.R. 4467, H.R. 4468, H.R. 7622.

H.R. 1469 *Pettis*

Would require the Secretary of Transportation to prescribe regulations governing the humane treatment of animals transported in air commerce.

H.J. Res. 226 *Whitehurst*

Joint resolution asking the President to declare October 13th of each year as "Animal Welfare Day".

H.R. 8774 *Brown (California)*

Humane Methods of Slaughter Act. Would amend the Act of August 27, 1958 and the Federal Meat Inspection Act for purposes of imposing penalties with regard to the inhumane slaughter of livestock.

P.L. 94-279 (S. 1941)

Animal Welfare Act Amendments. Would increase the protection afforded to animals in transit and to assure the humane treatment of animals, and for other purposes. Passed House, amended in lieu of H.R. 5808. Senate agreed to conference report April 7, 1976. Measure was enacted into law (P.L. 94-279) April 22, 1976.

H.R. 6155 *Whitehurst*

Would amend the Horse Protection Act of 1970 to better effectuate its purpose.

P.L. 94-360 (S. 811/H.R. 13711)

Horse Protection Act Amendments. Would amend the Horse Protection Act of 1970 to better effectuate its purpose. Passed Senate Oct. 9, 1975; passed House June 21, 1976, amended to contain the provisions of H.R. 13711. Senate agreed to House amendments June 24, 1976. Measure was enacted into P.L. 94-360 on July 13, 1976.

The Ninety-Fifth Congress will convene on January 5, 1977....

***** ATTENTION PLEASE *****

Flamingo Breeders, Need Info On:

American Flamingo, *Phoenicopterus ruber*
Chilean Flamingo, *Phoenicopterus ruber chilensis*

MUST KNOW...

- A. Substantial feeding habits
- B. Successful breeding regions
- C. Specify: enclosure area, natural or artificial
- D. Social equality with other birds in enclosure, if any
- E. Rate of metabolism in captivity
- F. Life expectancy, if known

*Any help will be appreciated...
SEND INFORMATION TO...*

Ed Coppage, Keeper
Overton Park Zoo and Aquarium
Memphis, Tennessee 38112

Editorial offices for The Keeper are now at the Brookfield Chapter of AAZK. Correspondence and inquiries should be sent to: The Keeper, Brookfield Chapter AAZK, Brookfield Zoo, Brookfield, IL. 60513...

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A HANDSHAKE AND A BIG KISS to Linda Weiss of the Como Park Zoo for the tremendous amount of time and effort she put forth in compiling this index of AKF, 1976. It is greatly appreciated.

COUGAR INFORMATION PUBLISHED

Transactions of the *Mountain Lion Workshop* held earlier this year have been published, according to the Wildlife Management Institute. The workshop focused on the cougar in the western U.S. and Canada.

The transactions contain information on mountain lion biology and life history, population inventory techniques, harvest, depredation, population modeling, and research and management needs.

Inquiries about copies of the transactions should be sent to the U.S. Fish and Wildlife Service, 1500 N.E. Irving Street, Portland, OR 97208.

BROOKFIELD CALENDAR NOW AVAILABLE

Brookfield's Zoo 1977 calendar, entitled *Brookfield Babies*, is now available at the or through the mail. The calendar features black and white 8½ by 11 inch photographs of zoo infants, including a pallas cat kitten, lion cub and family, baboon harem with infant, polar bear cub and wolf cub, along with eight other pictures.

The calendar is available at the Zoo bookstore for \$2.00 or through the mail for \$2.75 postpaid. Checks or money orders are preferred and should be made payable to Brookfield Babies 1977 Calendar. Please send orders to Brookfield Babies 1977 Calendar, Public Relations Dept., Brookfield Zoo, Brookfield, IL. 60513

"I hold every man a debtor to his profession; from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

Bacon... Maxims of the Law

(and thank you, Mike Yelverton, Greater Baton Rouge Zoo)

AMERICAN ASSOCIATION OF ZOO KEEPERS

NATIONAL HEADQUARTERS

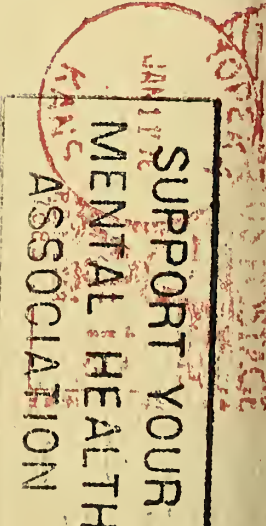
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Dedicated to Professional Animal Care

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FEBRUARY 1977

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Edited by Ron Kaufman, Topeka Zoological Park
Associate Editor: Mike Coker, Topeka Zoological Park

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Send name and address and a check or money order to:

AAZK Headquarters,
National Zoological Park,
Washington, D.C. 20009

Make checks payable to: American Association of Zoo Keepers

COVER DRAWING IS AN ADAPTATION OF ORIGINAL ARTWORK BY PERRY LABELLE

DEADLINE FOR EACH EDITION OF AKF IS THE 20th OF THE PRECEDING MONTH...

SCOOPS and SCUTTLEBUTT

WORLD'S OLDEST CAPTIVE GORILLA CELEBRATES 46th BIRTHDAY *from the Philadelphia Zoo*

Massa, the world's oldest captive gorilla celebrated his 46th birthday and the 41st anniversary of his arrival at the Philadelphia Zoo on Thursday, December 30, 1976. Massa is a lowland gorilla and was born during 1931 in the jungles of western Africa. His mother was slain while raiding village crops.

Recognizing the fact that Bamboo, the Zoo's former record-holding gorilla died of a heart attack at age 34, Zoo officials have kept Massa slim. He now weighs approximately 135 kg. (300 pounds). His diet is largely responsible for his longevity. His daily diet includes six oranges, two carrots, one-half bushel of kale, tender shoots, twigs and leaves of edible shrubs and trees, and two pounds of Zoo cake, the Zoo's formulation that is complete with all the vitamins, minerals, and proteins necessary for good nutrition.

Massa is one of the Philadelphia Zoo's two longevity record-holding great apes. The other is a Sumatran orang, Guas, age 56. Guas is the world's oldest captive primate.

YOU THOUGHT YOUR ZOO WAS CROWDED! *from the San Diego Zoo*

Record attendance levels were reached in the last days of 1976 at both the San Diego Zoo and at the San Diego Wild Animal Park. Through Wednesday, December 29, the zoo showed an attendance of about 3,261,423. The Wild Animal Park showed 977,113 through the same period...

ELEPHANT ARTIFICIALLY VENTILATED

We've learned of a major development in zoo veterinary medicine. In an article that first appeared in *Respiratory Topics*, 2:1, 14, 15 July, September 1976, and reprinted in *Veterinary Medicine and Small Animal Clinician*, volume 71, number 12, December, 1976, we have read of the successful ventilation of an Asian elephant for over five hours, while the animal was "down" for surgery. This is the first time in recorded history that such a feat has been accomplished. The previous time was one hour and forty-two minutes. The work was accomplished at the Crandon Park Zoo in Miami, Florida and was done on an adult, 7400 pound animal. Ms. Keith Finlayson, a respiratory therapist performed the work. A ventilator capable of delivering both high volume and high pressure was used. The animal successfully recovered from the ordeal. However, during a second surgical attempt four days later, the animal went into cardiac arrest. Necropsy showed active tuberculosis...

WE WISH WE HADN'T DONE THAT... *from our Blunder Department*

In an article submitted by Andy Vernon, of the great Overton Park Zoo and Aquarium in Memphis, TN., we left something out. The piece told of the hatching of the West African Dwarf Crocodile at the zoo. We said it is believed to be the third such hatching in captivity. It still is. However, we failed to say that is the *first such hatching in the United States...* Andy and his crew are looking out for a Bean Award for this one, and rightly so. Our deepest apologies regarding the omission, Andy...

BIRTHS HATCHINGS

WHITE-HANDED GIBBON BIRTH AT WILDLIFE SAFARI by Laurie Marker, Winston, Oregon

A female white-handed gibbon *Hylobates lar* was born on October 23 at Wildlife Safari, Winston, Oregon. The infant's mother being 18 years old, had lived with two other mates with no apparent signs of breeding.

The infant's seven-year old father was introduced 202 days before the infant's birth. He had lived previously with another female, but again, there were no signs of breeding.

When the female was thought to be in her last month of pregnancy, she was brought into the clinic by Safari keepers. Very shortly after this she gave birth. The veterinarian was called in to unwrap the umbilical cord from the infant's waist. The infant was virtually hairless, pink and had two bottom teeth. The infant from birth clung tightly to her mother.

The mother was observed to have no milk for 36 hours. Suckling was observed on October 25 for 1½ minutes. The female's maternal instincts seemed to be strong, but she was very nervous. Daily she became more nervous until on October 28, she was observed dropping the infant, holding her by one leg, and throwing her from hand to hand. The infant was screaming. Her mate was then brought to the clinic to see if she would calm down. This made the situation worse. Since the female was so old, very humanly imprinted on, and since this was her first birth, the infant was pulled for hand-raising by clinic supervisors. Her weight was 12.56 ounces.

The infant was started on Similac formula, taking ½ oz. every two hours. At the time of writing, the infant weighs 1 lb.9 oz., has six teeth and a lot of fur.

CHEETAH BIRTH AT WILDLIFE SAFARI by Laurie Marker, Winston, Oregon

Five cheetah cubs (2.3) were born at Wildlife Safari, Winston, Oregon on December 4, 1976. This is the fourth consecutive year that Safari's breeding pair of cheetahs have successfully reproduced, totaling 21 cubs.

The breeding pair was wild-caught in Southwest Africa in 1972 and have since been living at the Safari. They are enclosed in a 7-acre breeding area where no visitor observation is allowed.

The cubs will stay with their mother until they are approximately 8 months old.

We hope our experiences with captive cheetah breeding will be of great help to all zoos and parks.

Reptile Amphibian potpourri

by Trooper Walsh, National Zoo

Eradication of the common snake mite (*Ophionyssus natricis*) is one of the basic problems commonly encountered in any size reptile collection. Fad remedies for this problem have included mineral oil baths, garlic vapors DRI-DIE 67 applications, and probably a bit of witchcraft. Varying degrees of success can be attributed to common sense and consistency of treatments. All methods of killing mites have their advantages and their tragedies. Recently Vapona No-Pest-Strips have become popular in defense against ticks as well as mites.

The Vapona strip is easy to use, reusable, cheap and relatively safe to use with herps on a comparative basis. To my knowledge, no one has published any material proving any long term problems associated with using Vapona strips on reptiles. It has been suggested that prolonged use of the strips in aviaries will cause sterility in male birds. If so, it might be reasonable to assume similar effects in male reptiles, especially with smaller species or with highly concentrated exposures to the strip.

Since the captive propagation of reptiles is a relatively new concept to most U.S. zoos and collectors, the long term effects of the Vapona strip on consistent breeding groups is as yet undetermined. I personally avoid the use of the strip with gravid female herps. We here at RAP have received questions about the dosage for the Vapona strip. "*How much strip do you use and for what size reptile?*" "*Does the size of the cage matter?*" "*How long do you use it for?*" There are no manufacturer's instructions for use of the Vapona strip on anything smaller than a room or a garage. The caution on the label of the Vapona strip recommends removal of all food and water objects: "*not to be used in areas where items for human consumption are stored or served.*"

Frye, writing in Husbandry, Medicine and Surgery of Captive Reptiles, recommends "one full strip per 1,000 cubic feet of room space." He also states that the Vapona strip "may be hazardous to humans having to breathe Vapona laden air." I would advise using the strip in an area or cage where there is adequate ventilation...only sealed if all specimens have been removed. I have noticed that specimens, especially small snakes and lizards, in areas with restricted air flow tend to develop temporary respiratory problems, heavy breathing, and excess mucous production. This condition, in my experience, ceases with removal of the strip and a few minutes of fresh air.

As for cage size, I don't use a full strip on an inhabited cage any smaller than 6x3x3 feet. For most of our smaller cages (5 gal. to 30 gal. capacities) I generally use a section of a strip, maybe one sixth of a whole strip, for a period of three days. Mite eggs seem resistant to the Vapona strip so it is necessary to repeat treatment once or twice at intervals of four or five days.

I make it a practice to keep the strip out of direct contact with my animals so that tongues or limbs do not come in contact. It is advisable to "air" a new strip for a couple of days so that no chemical juices will drip from the Vapona strip into a cage. Some people wrap sections of a strip in porous cloth to avoid direct contact with their animals. Never put a Vapona strip directly in the cage with an animal. It's also impor-

tant to "update" strips from time to time. The life of an unsealed Vapona strip is approximately four months. The weaker the strip, the less effective it is.

Remember that heat intensifies the effects of a Vapona strip. I recommend not exposing an animal in a confined area to the strip at temperatures over 85 degrees for any length of time. Basically, observation and common sense are the most important guidelines for use of the Vapona strip. RAP would appreciate any info you might have on the subject of No-Pest-Strips. Until the Vapona pest strip people start adding instructions with their product for use on herps, all we have are herp people to go to, right?

DIRECT ALL COMMENTS TO R.A.P., DIVISION OF REPTILES AND AMPHIBIANS, NATIONAL ZOOLOGICAL PARK, WASHINGTON, D.C. 20009...

HEDGEHOG PEDICURE *by Daniel A. Baffa, Curator, Indianapolis Zoo*

Our female European Hedgehog had several toe-nails that were about to become ingrown. Although she was accustomed to being handled for lectures, she could not be coerced into allowing us to give her a pedicure. Not wanting to sedate the animal, we sought means of mechanical restraint. However, her habit of curling into an almost perfect prickly ball proved to be too much for us. Knowing hedgehogs to be good swimmers, we decided she would rather swim than sink and if she swam, her feet would be exposed. We slowly filled a 20 gallon aquarium with warm water, manipulating the depth to different levels for different feet. After the initial shock of the water, she settled down and only half-heartedly attempted to resist her "manicure."



POSITION AVAILABLE

ZOO KEEPER 1... The Jackson Zoological Park is now accepting applications for the entrance level of Zoo Keepers. Salary range is \$564.00 to \$686.00 per month. Standard Benefits. Duties include the general care and maintenance of a wide variety of mammals, birds, reptiles and children's zoo animals. Applicants must have a high school education. Practical experience desirable; however, we will train the proper persons. Send resume to James L. Swigert, Director, Jackson Zoological Park, 2918 West Capitol Street, Jackson, MI 39209.

STOSKOPF TELLS TRUTH

Dr. Michael Stoskopf, staff veterinarian for the Overton Park Zoo and Aquarium in Memphis, TN, recently taped a segment of the syndicated television show "To Tell the Truth." Stoskopf was asked to appear to describe his work with beak replacement in injured birds. The two "fake" members of the trio were laymen attempting to represent the veterinarians of the Topeka and San Diego Zoos...





AMERICAN ASSOCIATION OF ZOO KEEPERS

from the President

Bela J. Demeter

Bela Demeter

Four members have been appointed to serve with Jill Grade (Busch Gardens, Los Angeles) on the Nominations and Elections Committee. They are Kent Benedict (Atlanta), Jeff Perry (Buffalo), Elizabeth Choules (Salt Lake City), and Bob Hoffmann (Milwaukee). Nominations for two positions on the Board of Directors will be solicited in the April issue of AKF.

Rick Steenberg is no longer Coordinator for International Affairs.

Plans are underway to hold an AAZK session at each of the AAZPA regional workshops. Registration information for each of these will be printed as it becomes available...

NORTHEAST REGIONAL AAZPA CONFERENCE, NATIONAL ZOOLOGICAL PARK, WASHINGTON

Date: April 3-5

Registration Fee: \$20 (AAZPA members), \$25 (non-members)

Headquarters: Connecticut Inn Motel, \$19 (single), \$23 (twin) plus tax

Topic: Small Mammal Husbandry...write Miles Roberts, National Zoological Park, Washington, D.C. 20009 for more information

Room Reservations: Mike Morgan, National Zoological Park. Act soon, as rooms will be in short supply due to the Cherry Blossom Festival

SOUTHERN REGIONAL AAZPA CONFERENCE, LITTLE ROCK ZOOLOGICAL GARDENS, LITTLE ROCK, ARKANSAS

Date: April 17-20

Registration Fee: \$17.50 (preregistration), \$25.00 (at conference)

Information: #1 Jonesboro Drive, Little Rock, AR 72205, Attn: Anna Patterson, Educational Coordinator

The Keeper is progressing well under the direction of Jeff Roberts at the Brookfield Zoo. We hope to have it published in March.

Deadline for the Directory is April 1. Your participation is requested in order to make this issue as complete as possible. Please send the following information to Chicago as soon as possible...

1) Area of zoo in which you are working

2) Your special area of interest

Send the information to: Pat Sass, AAZK Directory
Lincoln Park Zoological Gardens
100 Webster Avenue
Chicago, Illinois 60614

NATIONAL HEADQUARTERS

National Zoological Park · Washington, D.C. 20009

Veterinarians and Keepers.....

by Joseph T. Bielitzki, DVM, MS,
Topeka Zoological Park

PREGNANCY BASED ON SOCIALITY

The body functions to achieve maximum reproductive efficiency. To a great extent, an animal's social structure determines the method by which ovulation can occur. In those animals with a highly structured herd or pack, spontaneous ovulation is most efficient. In solitary animals, induced ovulation seems to be more prevalent.

Spontaneous ovulation can be described as a means of releasing the ovum or egg on a pre-programmed schedule of events. During a constant segment of the estrus or heat period, the ovum is released without external stimulation into the oviduct. This means that a female needs to be bred during or near this portion of heat for fertilization to occur. The length of the estrus period remains reasonably constant, and the female is usually receptive throughout most of this period.

Animals with a herd structure would obviously reproduce maximally under these rules. In this situation, a stud is able to survey the herd daily for females in heat and breed those that are receptive for the duration of the estrus period. The estrus period remains constant in length.

Solitary animals need a method that is less dependant on the constant presence of a mate. Consequently, induced ovulation is the physiology of choice. Under this set of rules, ovulation will occur only on the stimulation of intercourse. This is referred to as a neurohumoral response. The nervous system detects the stimulation of both the vagina and cervix during intromission and relays this message to the brain. The brain translates the message into an endocrine (hormonal) release, which then triggers ovulation.

As a rule, the female must be in heat to be receptive to the male, and once intercourse occurs fertilization is almost guaranteed. It is obvious that both the egg and the sperm should be in the same place at the right time with this system. Once bred a female goes out of heat and the pair usually resume a solitary existence. So here the length of estrus is dependant on whether or not intercourse occurs. If it does not occur, ovulation does not occur.

In spontaneous ovulators, if pregnancy does not occur, but breeding has been observed, then the next estrus period occurs as if no breeding had taken place...she cycles normally. However, induced ovulators go into pseudopregnancy, a period where the body assumes that it is pregnant since intercourse and ovulation have taken place. The next estrus does not occur until about one-half of the normal gestation has taken place. Certain members of Canidae are exceptions to this rule. The canids are spontaneous ovulators but do demonstrate pseudopregnancy. In this case, ovulation occurs spontaneously and each time ovulation occurs, the body assumes that it is pregnant. Breeding is not a prerequisite for pseudopregnancy to occur.

The body can respond in two ways to the problem of guaranteeing pregnancy. Where the male and female are frequently together, spontaneous ovulation occurs...or perhaps it could be described as "if at first you dont succeed, try, try again." Induced ovulators are generally more solitary,

and ovulation must occur during the period when the male and female have formed some kind of pair-bond, however temporary, and in the simplest terms "Gotcha."

There are exceptions to the above rules, but in the broadest sense, mammals are very consistant and persistant at perpetuating their own kind under the circumstances for which they were designed.

FOURTH INTERNATIONAL CONFERENCE ON THE WORLD'S CATS
AND SOCIOBIOLOGY OF CARNIVORES

You'll need to hurry to make plans for this one. The program is impressive and it should be a good conference for the feline and carnivore minded. Time is short, though.

Dates: 17-19 March, 1977

Place: Hyatt House, Sea-Tac Airport, Seattle Washington

Registration: \$40.00 in advance, \$45.00 at the door...
Student registration is \$25.00, \$30.00 at the door...

One day's admission is \$20.00 for anyone.

The conference is sponsored by...

Institute for the Study and Conservation of Endangered Species,
National Parks and Conservation Association,
Woodland Park Zoo
Department of Psychology and the
College of Forest Resources of
the University of Washington

For registration materials or for more information, write ,

R. Eaton
Burke Museum DB-10
University of Washington
Seattle, Washington 98195

KEEPER'S CONDITION STABLE

In our June, 1976 edition, AKF reported on the case of Debbie Blackwell, a keeper at the Overton Park Zoo in Memphis. At that time Miss Blackwell was listed in critical condition with an injury to base of her brain. She suffered the injury after being attacked by a female giraffe whose calf was in danger of being strangled. Miss Blackwell attempted to save the youngster and was kicked in the head. The calf died.

Miss Blackwell was taken to a Memphis hospital by ambulance.

Today, Miss Blackwell is in stable condition and is undergoing care in New Orleans. Her parents live in that city.

She is described as being in a semi-comatose condition, but is otherwise stable. Once again, AKF extends its wishes, on behalf of all keepers for her smooth and swift recovery.

RAPTOR REHABILITATION AT THE DICKERSON PARK ZOO

by
Paul M. Price, Jr.
Dickerson Park Zoo
Springfield, Missouri

INTRODUCTION...

In January of 1976, Dickerson Park Zoo began a Raptor Rehabilitation program. We felt this program was necessitated due to the large influx of raptors we receive each year.

We feel our zoo has four main objectives: Conservation, Education, Research, and Recreation. Our rehabilitation program works and operates within these guidelines.

Raptors are heavily persecuted in this day and age, with man's encroachment upon their breeding territory, and there still is an alarming number of indiscriminate shootings. Dickerson Park Zoo is trying to serve its obligation towards conservation by rehabilitating raptors and returning them back to the wild.

In our efforts to return these birds to the wild, we are in constant contact with the people of the southwest Missouri region. We serve as an example to the general public in setting forth conservation standards. Also, through our attempts, we serve as an educational tool for the public. We relate to the public the importance of raptors in our biosphere thus fulfilling our role in education.

Rehabilitating wild birds gives our zoo staff additional experience in the care and treatment of sick or injured raptors. The zoo also is gaining valuable information in rehabilitation techniques, drug dosages, surgery techniques, falconry techniques, veterinary practices, and raptor data gathered on birds coming through our program. We hope our research can aid raptor studies directly or indirectly.

PROCEDURES AND METHODS...

Birds are brought to us by the general public on their own, or referred to us by the Missouri Conservation Department. Frequently the Conservation Department brings birds to us which have been picked up in the field by their agents.

Once a bird is brought to us, a "Dickerson Park Zoo Entry Slip" is filled out. This gives us the source, origin, species, age and sex. The donor must sign the slip, thus giving Dickerson Park Zoo the right of disposition on the specimen. The donor is told that the zoo will make every effort to return the bird to the wild.

Once the bird is in our possession, each raptor is examined as soon as possible to determine extent of injury. Uninjured birds or temporarily stunned birds are banded with a U.S. Fish and Wildlife Service band, and released immediately.

Raptors with fractures are dealt with in the following methods. If the break is of a simple nature, binding is sufficient, and the bird is placed in a holding unit (to be described later). Fractures of a more

serious nature are dealt with in two different ways. If the fracture is one of the crushing or shattering of a joint which would require an amputation, the bird is euthanized unless one of the following criteria is met: (1) the bird is needed for captive propagation, (2) the bird can be used for exhibit purposes, (3) the bird is a member of an endangered or threatened species. Euthanasia is accomplished by an intravenous injection of Ketamine Hydrochloride, then the bird is chloroformed. If one of the criteria is met, then the amputation is done. If the fracture is of another nature, i.e. compound, old or infected, shattering, then the bird is taken to the vet for surgery. If the nature of the break cannot be assessed, then radiography is used.

In the surgical treatment of raptors with fractures, the drug of our choice is Ketamine Hydrochloride which is manufactured by number of laboratories under different brand names. We have found a working dosage rate of 35 mg./kg. for hawks and eagles, 20 mg./kg. for large owls, and 15 mg./kg. for small owls, is the best. This provides surgical anesthesia for 15 to 20 minutes.

When the raptor is an eyass or a young bird, it is hand-raised for educational purposes, if it is needed. If not hand-raised, a procedure referred to as hacking is used. Hacking has been used by falconers for quite some time. A hacking station is an artificial nest where young birds are fed and live. As these birds grow older, they gain flight experience and become independent of the hack station for food. Birds are hacked at a rural city park; birds are not hacked on the zoo grounds to prevent predation on zoo animals.

While the birds are in our care, they are fed a diet of whole mice, chicken necks, and Bird of Prey (a commercial diet manufactured by Nebraska Packing Company). Birds that are brought to us suffering from malnutrition, who will not eat, are force fed a gruel, which consists of pulverized whole mice mixed with Seven-Up or sugar water.

While we retain the, they are housed in holding units of two basic types. The smaller of the two units has the dimensions of 6' in length, 4' wide and 4' in height. It is enclosed on all three sides and top to minimize stress, the front is covered in chicken wire. The larger holding units are 16' x 8' x 8'. They are constructed out of 4' x 8', two by four frames, covered with 1" by 2" welded wire. The larger holding unit provides a little more exercise room for the recuperating birds.

Methods of determining strength for release are achieved in a variety of ways. The simplest method is merely turning the bird loose in an open field. If the bird is strong enough not to be caught while being pursued, then it is left. A second method is the exercising of the bird through falconry techniques until it has regained its strength to survive on its own. There are several other alternatives using other falconry techniques, such as different types of perches and methods of flying these birds, that I feel should be used as often as possible.

Part Two of Raptor Rehabilitation at the Dickerson Park Zoo will appear in the March issue of Animal Keepers' Forum...

Animal Keepers' Forum encourages our readers to write editorials or to comment on pertinent zoo topics. We want to hear from you and your colleagues regarding items printed in AKF or regarding things you feel are vitally important topics to all zoo professionals...

MOST U.S. ALLIGATORS
COME OFF ENDANGERED LIST

One of the most significant accomplishments of America's conservation movement was announced recently, when most of this nation's alligators were removed from the endangered species list and placed on the less restrictive threatened list.

The action, published in the January 10, 1977, Federal Register, removed the alligator from the endangered list to the threatened list in all of Florida, and the coastal portions of Georgia, Louisiana, South Carolina, and Texas. Almost 600,000 alligators, representing more than 75% of the U.S. population, inhabit this area. The species is still classed as endangered in all of Mississippi, Alabama, Oklahoma, and North Carolina, as well as inland areas of South Carolina, Georgia, Louisiana, and Texas. However, less than one-fourth of the total U.S. alligator population inhabits those areas.

GIANT ANOLE PROPOSED FOR ENDANGERED LIST

The Giant Anole, a 24-inch inhabitant of Culebra Island, Puerto Rico, has been proposed as endangered by the USDI. The proposal also includes a determination of critical habitat for the species. Interested persons have until April 7, 1977, to comment on the proposal.

The large lizard may survive only in the high tree canopy of the forested slopes of Mt. Resaca on Culebra Island. The species is very rare; few specimens occur in the museums of the world. Some doubt has already been expressed as to whether this species still survives. It is hoped that this proposed action will stimulate exploratory and conservation activities for this unique lizard.

SEA OTTER LISTED AS A THREATENED SPECIES
OFF THE CALIFORNIA COAST

The southern sea otter of the central California coast has been listed as a threatened species by the USDI.

The animal was protected under the Marine Mammal Protection Act of 1972 which contains a moratorium on killing. None may be killed without a scientific research permit issued under that Act. These regulations will remain in force. The listing as threatened provides the additional protection of the Endangered Species Act's "critical habitat" provisions. These will enable the Fish and Wildlife Service to determine the living space requirements of the species and insure that their habitat is kept stable.

ISIS ACTIVITY ACCELERATES

by
Linda Murtfeldt
Systems Manager
International Species Inventory System
St. Paul, Minnesota

The International Species Inventory System (ISIS) celebrated its third anniversary in November 1976. AAZPA's ISIS continues to grow as more zoological institutions become active and as new subsystems are proposed and added. The computer data bank now holds records on an estimated 25,000 living mammals and 3,000 living birds. These specimens are housed in the 115 actively participating zoos in the U.S., Canada, and the Netherlands (Rotterdam). Since July, ISIS has been located at its permanent offices in the Minnesota Zoological Garden, 12101 Johnny Cake Ridge Road, Apple Valley, Minnesota 55124. The phone number is (612) 432-9000.

The ISIS Avian Taxonomic Directory, Part I, which includes all orders, with the exception of the passeriformes, was distributed in two sections to all active ISIS participants in May and November of 1976. This volume contains code numbers, scientific and common names, geographic locations, references and three endangered species listings. This volume is available from ISIS at a cost of \$50.00. The Mammalian Taxonomic Directory costs \$30.00, the World Geographic and Zoological Institution Directory is \$25.00 and the Institution Procedures costs \$15.00. The set costs \$50.00 and all are available from the ISIS office. We hope to have the passeriformes, Part II, ready for distribution in early 1977. Taxonomic directories for reptiles, amphibians, and fishes will be available within the next 12 to 18 months.

The third ISIS Species Distribution Report will be produced and distributed in microfiche form in late January. This report will contain information on all living animal specimens in the data bank as of December 31, 1976. Each ISIS participant will also receive its own individual inventory and acquisition-release reports on paper and microfiche.

A revision to the Institution Procedures will be available to all active ISIS participants in early 1977. Programming changes are also being enacted at this time, along with a revised New Inventory Data form. These changes and additions will include new codes for circumstances of death, addition of space for sire and dam institution codes, changes to more easily record animal loan transactions, and a repositioning of studbook name/number, tag/tattoo, and house names. Many of these revisions are necessary for the data input of historical records for studbooks and pedigree analysis.

Development of the Physiological Norms subsystem continues with the support of the AAZV. Systems analysis is nearly complete and computer programming is underway. This subsystem should become operational by mid 1977.

The Life History subsystem development will not be actively pursued for the next year or two. It was felt it would be more beneficial to first concentrate on completing all other facets of ISIS.

In October of 1976, the Board of Directors of AAZPA voted to financially support the continued development of the ISIS Studbook-Pedigree Analysis subsystem. With additional funding this subsystem could be operational

ISIS CONTINUES...

during 1977. This system will evaluate the risks associated with inbreeding and develop computer-based methods to measure and to minimize them. Studbooks, containing historical breeding data, will be produced and will be used to measure the inbreeding in the history of today's animals, an important consideration for future mating choices. Another portion of this program will tabulate all ancestors and descendants of a given animal in studbook fashion. This will be of great value in finding, tracing and eliminating specific genetic defects. Thus, the studbook-pedigree analysis subsystem of ISIS will provide studbook reports on any and all desired species or subspecies, facilitate genetic management, provide detection of inbreeding caused problems, and suggest solutions when such problems appear.

The value of the ISIS data bank grows in proportion to participating zoo's submission of accurate and complete data. We urge you to offer support to the ISIS representative at your institution.

COLD, SNOW AND WIND COMBINE TO BURY BUFFALO ZOO Buffalo, New York, 1 February, 1977

This zoo is digging out of the worst blizzard that has hit the Buffalo area in recorded history. Snow, driven by constant winds that reached 60 to 75 mph., has created drifts 12 to 15 feet deep and has virtually buried many areas of the zoo. AKF talked with Terry Gladowski, administrative assistant at the zoo.

He said that all the moats had been filled by snow and that drifts had covered many of the paddock fences. All hoofed animals have been locked in their barns, except for the bison and blackbuck. With those animals, the zoo staff is digging trenches around the yards. The natural gas shortage is little problem. though, as the zoo uses heating oil and has secured an ample supply. The zoo was closed Friday, 28 January and may not reopen until Monday, 7 February, depending on the weather.

Keepers are reporting to work in spite of hazardous road conditions and in spite of a temporary ban on all driving on the streets. Arrest awaits those who are caught driving, but, police are allowing the keepers passage.

***** PLEASE NOTE!!! *****

The headquarters for the American Association of Zoo Keepers is at the National Zoo in Washington, D.C. The correct address is given on the inside front cover of this issue of Animal Keepers' Forum. Please, do not send memberships or other AAZK business to Topeka. It will only result in delays due to the necessity of forwarding the items to Washington. Although AAZK is headquartered in Washington, D.C., the editorial office of AKF is in Topeka, Kansas. Items for AKF can still be sent to Topeka.

*** THANK YOU! ***

HAVE A HAPPY VALENTINE'S DAY...KISS A KEEPER...

THE ROTARIAN CONDUCTS SYMPOSIUM...

We urge you to dash to your local library immediately and ask for the most recent issue of a magazine called The Rotarian. Ask for the January, 1977 issue, volume 130, number 1. Thumb through to an article entitled "What's New at the Zoo?" It starts on page fourteen. It consists of an international symposium of zoo directors that answer questions put to them concerning zoos...past, present and future. Fourteen directors are involved and they are named below:

Shigeharu Asakura, Tama Zoo, Toyko
D.J. Brand, National Zoological
Gardens of South Africa and
President, International Union
of Directors of Zoological
Gardens

William G. Conway, Bronx Zoo, New
York City

Jean Delacour, Parc Zoologique de
Cleres, France

E.F. Jacobi, former director,
Amsterdam Zoo, Netherlands

Robert L. Jenkins, curator,
Marineland, Inc., St Augustine,
Florida

Tim Jones, Central Texas Zoo, Waco
Peter Karsten, Calgary Zoological
Society

E.M. Lang, Zoologischer Garten,
Basel, Switzerland

Jacques Nouvel, Parc Zoologique
de Paris, France

Charles R. Shroeder, director em-
eritus, San Diego Zoo

J.L. Throp, Kapiolani Zoological
Park, Honolulu, Hawaii

Walter Van den bergh, Societe
Royale de Zoologie, Antwerp,
Belgium

Arnd Wunschmann, Tierpark
Hellabrunn, Munich, Germany

Some of the more common questions concerning zoos, their philosophy, management, and future are given to the zoo men. But the answers are as varied as the countries from which the participants come.

Also on page fourteen is a nice article written by C.G.C. Rawlins, Director of Zoos for the London

Zoological Society. His article is entitled "Zoos: A Brief History" and gives an excellent review of the historical development of the modern zoo.

Following the symposium section ending on page twenty is a biographical sketch of Fred J. Zeelandelaar written by Charles W. Pratt. It is called "A Walk on the Wild Side."

This entire issue of The Rotarian is geared toward zoos and wildlife conservation. Please note that the editors of the magazine encourage readers to write to them regarding their own views of the zoo profession. Certainly, the large sections devoted to zoos will provide excellent food for thought and should provoke many responses from the readership...

PROCEEDINGS AVAILABLE

The proceedings of the First Inter-American Conference on the Conservation and Utilization of American Nonhuman Primates in Biomedical Research are now available.

Ask for Scientific Publication
Number 317 and address your
request to:

Pan American Health Organization,
Regional Office of the W.H.O.,
525 23rd. Street, N.W.
Washington, D.C. 20037.

The cost is \$4.00. Readers may find the material fairly technical but for the serious student of primatology, the publication will be of great interest.

AMERICAN ASSOCIATION OF ZOO KEEPERS

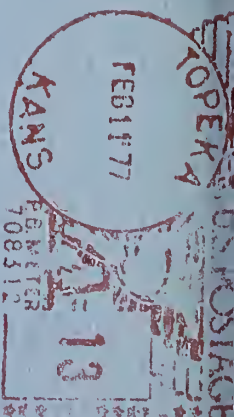
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Animal Keepers' Forum



Dedicated to Professional Animal Care

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Animal Keepers' Forum

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Topeka, Kansas
66606 USA

Edited by Ron Kaufman, Topeka Zoological Park
Associate Editor: Mike Coker, Topeka Zoological Park

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All memberships include subscriptions to Animal Keepers' Forum and to The Keeper, the Journal of the American Association of Zoo Keepers... All new members receive an AAZK shoulder patch and a membership card good for free admission to many zoos and aquariums in the U.S. and Canada. Memberships are pro-rated semi-annually, except for Student memberships. Extra patches are available from AAZK Headquarters, for \$1.00 each.

Send name and address and a check or money order to:

AAZK Headquarters,
National Zoological Park,
Washington, D.C. 20009

Make checks payable to: American Association of Zoo Keepers

COVER DRAWING IS AN ADAPTATION OF ORIGINAL ARTWORK BY PERRY LABELLE

DEADLINE FOR EACH EDITION OF AKF IS THE 20th OF THE PRECEDING MONTH...

SCOOPS and SCUTTLEBUTT

ELEPHANT KEEPER HURT IN ACCIDENT

*from Wes Peterson and Kit Lewis,
Washington Park Zoo, Portland,
Oregon*

Roger Henneous, senior elephant keeper at the Washington Park Zoo and winner of several animal-related awards was involved in an accident with his charges on Thursday, February 17.

He was routinely leading elephants from the front viewing room into a back room before beginning the daily cleaning. One of the other cows bumped into Me-Tu, the animal that Henneous was leading at the time. Me-Tu lost her balance and accidentally shoved Henneous against a concrete wall. Henneous suffered a broken shoulder blade and a bruised ribs. He will be recuperating for about six weeks.

Says Henneous, "Anyone who's known me for longer than fifteen minutes should know that I feel much safer in the elephant barn with four tons of elephant, than I do walking the streets."

Messages can be sent to Roger at 6320 S.E. 97th, Portland, OR 97266...

OLDEST PRIMATE DEAD AT AGE OF 57

Guas the orangutan and the oldest non-human primate in captivity died on Wednesday, February 9, at the Philadelphia Zoo. His estimated minimum age was 57.

A necropsy performed by Dr. Robert L. Snyder, Director of the Zoo's Penrose Research Laboratory, revealed that the animal suffered from extensive arteriosclerosis or hardening of the arteries, especially of the heart and kidney's.

As a result of his aging and related weakened condition, he developed pneumonia, the actual cause of death, Dr. Snyder said.

Massa, the Zoo's 46 year old gorilla is now the oldest anthropoid living in captivity and, based on available records, he has become the world's oldest living non-human primate in a zoo.

BACTRIAN CAMEL BORN AT BROOKFIELD ZOO

*from the Brookfield Zoo,
Brookfield, Illinois*

The first birth of a Bactrian camel at the Brookfield Zoo in 29 years occurred February 5. The female calf weighed an estimated 100 lbs and stood a little over four feet at birth. She was up on her feet and nursing almost immediately. The baby was named Lynn.

ELDERLY HIPPO DIES AT PHILADELPHIA

Jimmy the hippo, one of the most popular and best known residents of the Philadelphia Zoo died on February 8, at the age of 41.

Necropsy reports are inconclusive at present but preliminary studies indicated that Jimmy died of natural causes probably involving the heart and kidneys.

Over the past 18 months, the hippo suffered what zoo officials believed to be a series of heart attacks. Since then, his health has declined gradually. He cut his food intake in half and shed half of his 6,000 lbs.

BIRTHS HATCHINGS

NILGIRI TAHR BORN AT OVERTON PARK ZOO

by Houston Winbigler, Overton
Park Zoo and Aquarium,
Memphis, Tennessee

On January 3, 1977, a male Nilgiri Tahr *Hemitragus jemlahicus hylocrius* was born at the Zoo. We were expecting this birth and the kid was found at 8:00 a.m. It appeared to be about two hours old.

Although the stall floor was covered with loose grass hay, the kid was in a "spread-eagle" position and was not able to stand by itself or with the help of his pushing mother. After treatment of the umbilical stump with iodine and inoculations against blackleg and tetanus and injections of BoSe and antibiotic, the floor was "tiled" with blocks of hay. At 1:00 p.m., the kid was still struggling to stand and seemed to be exhausting himself. The mother was restrained and milked, and the kid was tubed with 3 oz. to provide colostrum. The kid showed signs of strengthening and was again tubed...this time with colostrum and glucose...at 6:30 p.m. By 8:00 p.m., he was able to stand.

The tahr herd, the only one outside of India, is now comprised of three males and three females born at Overton Park and two females imported from India's Trichur Zoo. Our original male, imported in 1972, died January 20, 1975, from a ruptured bladder that occurred after fighting was observed between him and his first offspring.

ROAD-TESTING THE '77 SERVAL

by Tom Goldsberry, Washington Park Zoo,
Portland, Oregon

Three brand new 1977 models of *Felis brachyura* rolled off the genetic assembly line at the Washington Park Zoo, February 4th.

Better known in racing circles by its modern name of Serval, these half-pound cats represent a 66 percent increase over last years production record of the four-year old engineering team of "Savage" and "Sally".

The Serval is characteristic of the basic quadruped body equipped with bilateral symmetry, ball-joint bone linkage, dual lungs, four-on-the-ground locomotion, muscle-and cartilage suspension, torsion clamp jaws, and placental reproduction.

Add to it a rugged four-chambered heart, retractable claws, chitinous paw covers fore and aft, a spotted exterior, and a rakish dorsal racing stripe.

When you've done all of that you have a top-rated stock carnivore.

Fueling is done by hand, injecting 15 cc's of high octane KMR formula six stops a day. All fueling and pit-stop maintenance is under the supervision of two top nursery mechanics. Jonolyn Wilson and Anne Littlewood.

When properly broken in, these cats will display unequalled ground-handling ability, and a good brain-to-body weight ratio of 1:250.

Although not as prestigious as the top-of-the-line lions and tigers, the Serval represents the best of the subcompact cats and proudly bears the stamp...Body by Felidae...

Reptile Amphibian potpourri

by Bela Demeter, National Zoo

No answers in this month's column, just questions. If you enjoyed hearing about our snake-measuring technique a couple of issues back, then you you'll probably also want to read a similar article by J.P. Jones and Hugh Quinn that came out in the June 1974 Herpetological Review. In fact, they went a bit further than we did and showed just how accurate that method is by repeated measurements of the same snake. Of course, I hadn't seen that article at the time I wrote up "our" technique, but I'm sure the exposure didn't hurt anybody.

Egg-laying season is just about upon us in full force. While there has been quite a bit of information published on incubation technique, I think there's more to it that we haven't quite gotten pinned down. I recently had a clutch of sixteen eggs from our East Indian Water Dragon *Physignathus cocincinus*, on November 23 to be exact. All of the eggs were fertile but seven soon developed that ominous ring of blood near the top and had to be discarded after a few weeks. The other nine, however, seemed to be doing very well and I started setting up my *Physignathus* nursery. (I always like to count my lizards before they hatch) Sixty-two days into incubation the eggs started turning brown and collecting beads of water. On the sixty-third day I opened them to find that all but one had died after almost reaching full-term status. The surviving one had no tail and atrophied hind limbs. It died several days later.

It's particularly frustrating to come so close to success and then fail. The eggs were set up by the same method described in the July 1976 RAP column, except that I used sterile potting soil in place of the damp sand. The soil has seemed to work better for us lately. Temperature averaged 85 degrees F. although it had risen to 90 degrees a couple of times due to fluctuations in the room temperature. We've made a few modifications to the room and think that problem, at least, has been solved. If you have any ideas, suggestions or similar experiences, I can't think of a better time to write to RAP. A lot of eggs should be due to hatch in a couple of months and your hints may increase hatching percentages significantly. Don't hesitate, write in now.

There are a couple of upcoming conferences you may be interested in if you haven't already made plans to go. The Society for the Study of Amphibians and Reptiles, the Herpetological League and the Kansas Herpetological Society are holding a joint conference in Lawrence, Kansas, from August 8-12. This should be a big one so don't miss it. For more information, write William E. Duellman, Museum of Natural History, University of Kansas, Lawrence, Kansas 66045. The American Society of Ichthyologists and Herpetologists is holding its annual conference in Gainesville, Florida, from June 19-25. Write Dr. Carter R. Gilbert, Florida State Museum, University of Florida, Gainesville, Florida 32511 for further details.

Frank Slavens is still compiling the 1977 edition of the Working Guide to Breeding Potential for Reptiles and Amphibians in United States Zoos. I'd like keepers to check with their divisions to see if their inventory has been sent out yet. The deadline is about mid-March. This is an extremely worthwhile project and I'd like to see us support it to the fullest. The address is P.O. Box 30744, Seattle, Washington 98103.

DIRECT ALL COMMENTS TO R.A.P., DIVISION OF REPTILES AND AMPHIBIANS,
NATIONAL ZOOLOGICAL PARK, WASHINGTON, D.C. 20009...

GERMAN SHEPARD NURSES ZOO BEAR CUBS *from the Philadelphia Zoo*

Deva, a 5-year old German Shepard is nursing three of the Zoo's Syrian bear cubs, along with her own puppy.

The three female cubs were born on January 16, to Yogi and Boo-Boo. The cubs were heard crying intermittently for an hour on January 17. The mother remained outside the den all the while. Zoo Senior Veterinarian Wilbur B. Amand became concerned that if the female did not stay with her cubs during the cold nights, they might be subject to exposure and become ill.

Additionally, based on Boo-Boo's record as a mother, the cubs would have been abandoned by her before the weaning period. By chance, Deva, who is co-owned by Zoo Gwen Cassel and her friend Mary Lou Hughes happened to be nursing a two-week old puppy.

Deva was introduced to the cubs one by one. She displayed immediate interest, sniffing each one and then licking them. The cubs were placed into the whelping box to join the puppy. Deva entered behind them, cleaned the cubs and layed down to permit the three to nurse.

YOU MAY HAVE TO GET IT FROM YOUR VETERINARIAN... but try to find a copy of Veterinary Medicine and Small Animal Clinician, vol. 72, number 2, February, 1977. Turn to page 275. You'll find an article by Elliott R. Jacobson, DVM, Ph.D. It's called "Histology, Endocrinology, and Husbandry of Ecdysis in Snakes, A Review." It's a real fine article on the biology of shedding in snakes, complete with color photos.

WE LEARN ALL KINDS OF INTERESTING THINGS AT AKF... for instance, from the weekly employees newspaper of the National Zoo comes this item: Did you know there are African elephant lice and Asian elephant lice and the same genus of louse, but a different species is found on warthogs? Zoo Curator of Mammals Harold Egoscue collected seven or eight of the little things from a female Asian elephant named Shanthi and took them to an expert on lice, Dr. K.C. Emerson. Elephant lice

are very rare in collections and there is a possibility that the Sri Lankanese variety has never been collected before. Mr. Egoscue says that elephant lice are most peculiar in that they're highly modified for their life on elephants. He says they move fast, are reddish brown and look like bedbugs (they're not related, however). They have long beaks with mouth parts on the end of the beak.

AND THEN HERE'S ONE FOR YOUR FIRE-PLACE... from another edition of the same newspaper (which is called TIGER TALK) comes news of a man who tried to ride a rhino in the Phoenix Zoo and ended up in the hospital with several broken bones, cuts, and bruises. Another man who jumped into the yard to assist the first man, suffered a groin injury and underwent surgery. The would-be rhino rider was quoted as saying "there ain't no rhino that can't be rode and there ain't no cowboy that can't be throwed."

AMERICAN ASSOCIATION OF ZOO KEEPERS

National Zoological Park · Washington, D.C. 20009

Great Lakes Regional AAZPA Conference, Indianapolis Zoo, Indianapolis,
Indiana

Date: May 1 thru 4

Registration Fee: \$20.00 (AAZPA members), \$25.00 (non-members)

Headquarters: Indianapolis Downtown Hilton

Papers: Dan Baffa, Speaker Chairman Deadline is March 14 for application

For more information write: AAZPA 1977 Great Lakes Conference

c/o Indianapolis Zoo

3120 East 30th Street

Indianapolis, IN 46218

Arrangements have been made for a room for AAZK members...

Plans are well underway for the 1978 National AAZK Conference to be held during the third week in September at the National Zoo, Washington, D.C. Sheryl Gilvert has assumed the position as conference coordinator. The 1979 AAZK conference (to be held in Portland, Oregon) is also in the works with Jonolyn Wilson being the coordinator.

AAZK has been granted tax-exempt status from the Internal Revenue Service under section 501(c)6. This falls under the category for Professional organizations. The exemption presently applies to just the parent organization and does not include chapters. Under this section, we are exempted from paying Federal income tax, but are not excluded from sales taxes or allowed special mailing privileges. Lobbying, however, is permitted and dues to the organization are also tax-exempt.

Richard Sheldon has resigned his keeper position from the Knoxville Zoological Park. His position as regional coordinator for AAZK (TN, KN, NC, VA, WV) has been filled by Jay Levine, also from Knoxville Zoo.

The Portland Zoo AAZK Chapter has given an Honorary Membership to Ms. Paige Powell, head of the Public Relations Department at the Zoo. She has done a great deal to promote the Chapter as well as the Zoo. What better way to honor her? This is a big handshake and a kiss to Ms. Powell as a thanks for a job, well done!

AAZK is setting up a reciprocal arrangement with the Association of British Wild Animal Keepers whereby members of both organizations will provide bed and board (or at least bed) for visiting members from the Other Side. We want to set up a file of AAZK members willing to do this (what a great opportunity to exchange information, don't you think). Interested members should send their names and addresses to:

Tom Goldsberry, Washington Park Zoo, 4001 S.W. Canyon Rd., Portland, OR
97221

Jon Barzdo, of the ABWAK is working on an international keeper exchange...

Tom Goldsberry has been appointed as the Coordinator for International Affairs for the AAZK. Tom has some exciting things in mind...

ONLY A DUCK

by
Tom Goldsberry
Washington Park Zoo
Portland, Oregon

History tells us that during the Napoleonic Wars the English actually executed a monkey for being a French spy. In our own 20th century pseudo-sophistication we like to think of ourselves as enlightened regarding our attitudes and treatment of animals. After all, scientists chortle over the advances made in biology and zoology; religious leaders never tire of telling us of gains in church membership and attendance; our own profession grinds out miles of maudlin copy with equally maudlin pictures of children cuddling animals; so maybe we have come a long way in the field of public education since 1815. *Or have we?*

A little incident at a large American zoo last year might lead us to believe otherwise...

The date, December 24th, was itself conspicuous. Being the eve of the Christian Christmas and the eighth day of the Hebrew Hanukkah would leave one to believe that, for at least one day out of the year, there would be some degree of decency, and possibly some of this reaffirmation of respect would be passed along to the animals. The night keeper came on duty at 4:00 and was greeted by a large crowd of people in the office. Other keepers, office personnel, a police officer, and five boys. The five boys, all aged ten, had stoned a duck at the waterfowl pond. Now, as any zoo person knows, stoning animals at the zoo is one of the favorite pastimes of the sports-loving American public. It was the viciousness of the attack, however, that set it apart from the usual rock throwing incident.

The duck in question was a common mallard, part of the flock that annually traverses the flyway in that part of the country during migration. No one in his right mind would argue that mallards are an endangered species; on the contrary, it is probably the least endangered species, as most duck hunters will readily attest.

This particular duck was known to zoo staff by its peculiar gait, reminiscent of a Pygmy Goose, and a curious white streak atop its green head. This was the second year the duck had visited the zoo. Piecing the story together in the office latter, it seemed that the duck had had the misfortune to be on the viewing platform the same time as the boys and it waddled toward them. The duck now had one minute to live. The first rock hit the duck square on the head and sent him sprawling. A boy's heel caught a wing and smashed it, scattering the feathers. The duck shakily regained its footing and was promptly struck with a rock that broke both legs. Another heel caught the other wing and immobilized it. As the boys stood around laughing at the quivering animal that lie at their feet, the boy who had thrown the first rock now finished the hapless duck off by cracking its head open with yet another rock. When zoo staff arrived at the scene the blood was already coagulating over the white streak on the head that had been the bird's trademark.

The parents of the murderers were called and the situation explained to them. By 8:00 four of the boys had been picked up. Each parent half-heartedly reprimanded their boy and muttered something about further punishment, and asked if this was all the zoo had to do on Christmas Eve. Besides, it was raining.

By 9:00 only the boy who had led the attack was still in the office. At 9:40, almost seven hours after the incident, a small, foreign-made car drove up to the office, struck the curb hard and stalled to a halt. With headlights still burning, a woman got out of the car and strode toward the office. Once inside the office the woman unleashed a verbal assault on the keeper and the security guard. Periodically, she screamed, "MY boy wouldn't do that". When informed that not only had her lovable son led the attack on the duck, but had actually boasted about it when first apprehended, she then blamed the other four boys for, "putting him up to it".

The keeper waited until she stopped for breath and then started to explain the future implications of the act. The fact that every documented case of a murderer from Jack the Ripper to Richard Speck had shown a history of childhood animal abuse. Also, the faact that animals were living things and not targets. Perhaps the boy should see a psychiatrist. Momentarily confused, she glanced at the boy and back to the keeper. Suddenly she blurted out, "*What the hell, buddy, it was only a duck!*"

For a long moment the keeper stared at the bloated face in front of him. The boy, sullen and defiant stood at her side. The smirk on his face accentuated the dried mucous beneath his nose. The only sounds in the office were the boy's wheezing and the security guard's radio. Somebody who didn't know any better was singing something about peace and loving everything at Christmas. The sight of the battered duck lying on a sheet of paper, now stiff and cold, the blood turned almost black, seemed ironic. There was nothing more the keeper could do. He turned and left the office. There were animals to feed...

THE STRUGGLE FOR SURVIVAL

WHITEHURST QUESTIONS INTERIOR DEPT.

Congressman William Whitehurst (R-2nd VA) has asked the Interior Department

for an estimate of new funds and personnel that would be required to carry out a comprehensive study of the wolf in Alaska. The request results from a planned aerial wolf slaughter by the State of Alaska to kill 80% of the wolves in the Brooks Mountain range, an area larger than the northeastern region of the United States. It is unknown how many wolves exist in the Brooks range. Some critics say wolf populations must be reduced if the caribou herds, which have been excessively hunted by man, are to recover.

Whitehurst charges that the record of those agencies charged with the protection and oversight of our wildlife leaves much to be desired, and that the wolf is perhaps one of the best examples of the need for a change in attitude and policy.

"A good start would be to cancel the aerial slaughter of wolves in Alaska and take action to reduce substantially the human kill of caribou, placing responsibility for the herd's condition where it belongs and taking action which will have the most positive effect. Recent decisions by the courts indicate the federal government may be powerless to stop the killing authorized by State officials. Public outcry and disapproval may have an affect... It's getting late for the wolf to put off action any longer," Whitehurst says.

Veterinarians and Keepers.....

by Mike Stoskopf, DVM,
Overton Park Zoo and Aquarium

HORN PROSTHESIS

Not long ago, a series of articles and interviews were spawned by a short quip I made to our local zoo reporter. Like most good reporters, this one always seems to take the interviews the direction he knows the public will enjoy, regardless of what the interviewee might want to emphasize. So, reluctantly, I now find myself billed as a plastic surgeon.

Plastic surgery usually brings visions of face lifts and nose jobs. I am sure most people who read a headline about an animal plastic surgeon immediately think of some aging poodle or jewelled bull dog being beautified by some super-eccentric surgeon. The catch is that the plastic surgery I was discussing with our reporter uses real plastic.

Recently, a European Wisent *Bison bonasus bonasus* had gotten into a battle with a stone and chain-link fence. Speculation on the cause centered around the frustrations of being beta male in the herd. Never-the-less, the net result from a horn being caught between a strong fence and a 900 pound bison was a broken horn. The injury itself wasn't life threatening but it was definately disfiguring. For some inexplicable reason, the same public which will authoratatively call a scimitar-horned oryx a goat, or profoundly pronounce a zebra to be a giraffe, expects a European wisent to have two horns. So our problem became largely esthetics. We needed an elective procedure which could replace the bison's broken horn for the viewing public, and which would stand up to the abuse a healthy male bison dishes out to his horns.

Several times I had used various plastics to repair tortoise and turtle shells and I had been having excellent success with some difficult repairs using a German-made hoof repair acrylic. The natural grey color blended well with the shell and even aquatic turtles had retained their patches. The same plastic was proving useful in beak repair in birds although all of the details of maintaining a long term prosthesis were yet to be determined. It seemed natural to turn to this compound again.

The first rule in zoo medicine is definately that *the therapeutic hazard should not exceed the disease hazard*. In any elective procedure it is expecially important to move cautiously and pay attention to details. We were dealing with a large ruminant, which requires at least three days of fasting to minimize regurgitation which can have fatal consequences. We also needed to keep our operating time as short as possible, hopefully not exceeding 45 minutes. The days of fasting were used to plan the procedure. Through binoculars portions of horn were chosen to be saved or trimmed off, and probable sites for placing the stainless steel mesh work were determined. The animal was put on prophylactic antibiotics and most important, he was closely observed to try and determine the original cause of the accident. If we didn't remove the original cause, we could only expect a recurrence no matter how elegantly we treated the symptom. We had no hope of building a horn stronger than the original, and although he would be referred to as the bionic bison by zoo personnel we were all aware that our horn would be temporary. As the stump of his horn grew, the bison would hone and shape his horns on trees and rocks. The prosthetic horn would eventually be ground to dust and a natural horn would be grown in its place.

When surgery time arrived everyone was ready. Drills, cutters and saws were used to trim horn and core into a usable form and the anchor wires were tied in to both hold the base together and to anchor the plastic which was sculpted into the shape of a wisent horn. The rapid hardening of the plastic became an important factor, for anaesthetic time could not be treated lightly. Careful planning and preparation paid off, and our plastic horn was successful. The feeling of accomplishment was great and the procedure provided good reading for many newspaper readers.

After the exhilaration we as zoo professionals must realize that we have merely corrected an error. We should not stop there. The real work is to determine how we could have prevented the problem from occurring again. It is very exciting to claim even partial success in a repair of this nature but how often do we forget that in order to have the problem to correct, something wasn't right initially, which caused the problem. This is the name of the game in good animal husbandry, PREVENTION, and it is a game keepers can play as well as anyone. Are you playing it? There isn't as much glory in it but it has much more valuable rewards over the long haul.

AMERICAN ASSOCIATION OF ZOO KEEPERS
Financial Statement
for 1976

<u>CASH ON HAND, 1 JANUARY, 1976</u>	\$ 613.01
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INCOME

Memberships, contributions and sale of patches	7051.92
Proceeds from 1976 Conference	956.50
Contribution from the Friends of the National Zoo for secretarial expenses	<u>500.00</u>
<u>TOTAL</u>	<u>\$9121.43</u>

EXPENSES

Advance for 1976 Conference	\$ 75.00
Printing and office supplies	328.52
Pro-rata refunds	412.50
AKF membership share	725.00
Cost of shoulder patches	207.55
Lease of postage meter	119.73
Postage for meter	400.00
Tape pads for meter	6.91
Postage scale	10.45
Secretarial expenses	393.65
Brochure: typesetting, printing, folding 5300 copies	187.32
Paper for AKF survey	17.18
Boxes for brochures	19.43
AKF miscellaneous expenses	11.19
Miscellaneous office expenses	<u>18.75</u>
<u>TOTAL</u>	<u>\$2933.18</u>

<u>CASH ON HAND, 31 DECEMBER, 1976</u>	\$6188.25
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RAPTOR REHABILITATION AT THE DICKERSON PARK ZOO

by
Paul M. Price, Jr.
Dickerson Park Zoo
Springfield, Missouri

...PART TWO...

During the period between January, 1976, and December, 1976, Dickerson Park Zoo has had a total of 34 birds come through our program (See Table One). The greatest majority of our birds were comprised of three species ...the Red-tailed Hawk, Great Horned Owl and Screech Owl (See Table Two). Of the 34 birds, 17 (50%) were adults and 17 (50%) were immature birds.

Throughout the year, our greatest influx of birds occurred in the months of January, April, May and November (See Table Three). The months of November, December and January usually result in a high bird yield due to extreme weather conditions that occur during these times. Young and old birds have a rough time of it in these periods. December, 1976, has been an exception, due to the extremely mild weather that is occurring. Also, another factor throughout this time is the increased activity in the field due to hunting seasons, when people are more apt to run upon the sick or injured bird. April and May show a high bird yield due to young birds in or leaving the nest during these times.

Out of the 34 cases we treated during this year, 9 involved a fracture injury to the wing, and only two of these were definite gunshot wounds. In these 9 cases, the injuries were divided evenly between the three major bones of the wing.

Out of the 34 cases, 24 birds survived, a 70.5% survival rate. Our release rate back to the wild was 61.7%.

Rehabilitation of these raptors was performed under United States Fish and Wildlife Special Permit No. PRT-7-787-S-KC.

ACKNOWLEDGEMENTS

A vast number of people have made this project possible. Dr. Philip Brown examined and performed surgery on many of these on his own time. Dr. M. Gilmore performed the radiographs on these birds. The Dickerson Park Zoo Staff helped in the care and feeding of these raptors. The Zoo Administration is thanked for their understanding of this problem and for the financing and manpower provided to this project. Thank you to the Missouri Conservation Department whose agents have much of their time in bringing these birds to us. And last, a special thanks to the people of Southwest Missouri who showed concern enough to take time to help those raptors found.

...The following tables denote the raptors donated to the Dickerson Park Zoo from January, 1976 through December, 1976.

The following key can be used to determine the nature of the birds...

I - Immature A - Adult 1/0 - Male 0/1 - Female 0/0/1 - Unidentified

<u>DATE</u>	<u>SEX</u>	<u>SPECIMEN</u>	<u>STATUS</u>	<u>DISPOSITION</u>
15 Jan.	0/0/1 A	Screech Owl (Otus asio)	Hit by car, concussion	Released
17 Jan.	0/0/1 A	Screech Owl	Malnutrition	Released
17 Jan.	0/0/1 I	Short-eared Owl (Asio flammeus)	Fractured shoulder	Euthanized
28 Jan.	1/0 I	Red-tailed Hawk (Buteo jamaicensis)	Malnutrition	Released
1 Feb.	1/0 I	Red-tailed Hawk	Malnutrition	Released
14 Feb.	0/0/1 I	Barred Owl (Strix varia)	Fish hook in R. wing	Died (stress)
28 Feb.	0/1 A	Red-tailed Hawk	Fracture, gunshot	Released
20 Mar.	1/0 A	Turkey Vulture (Cathartes aura)	Zoo specimen	Released
20 Mar.	1/0 A	Turkey Vulture	Zoo specimen	Released
20 Apr.	0/0/1 I	Red-tailed Hawk	Fractured shoulder	Euthanized
27 Apr.	0/0/1 I	Great Horned Owl	Nesting	Released
27 Apr.	0/0/1 I	Great Horned Owl (Bubo virginianus)	Nesting	Released
28 Apr.	0/0/1 I	Red-tailed Hawk	Nesting, vitamin deficiency	Euthanized
28 Apr.	1/0 I	Red-tailed Hawk	Nesting	Released
6 May	0/1 A	Sparrow Hawk (Falco sparverius)	Left eye swollen shut	Released
16 May	1/0 I	Sparrow Hawk	Nesting	Released
18 May	1/0 I	Sparrow Hawk	Nesting	Escaped
18 May	1/0 I	Sparrow Hawk	Nesting	Released
26 May	0/0/1 I	Screech Owl	Nesting	Released
27 May	0/0/1 I	Barred Owl	Nesting	Died (cause unknown)
22 Jun.	0/1 A	Red-tailed Hawk	In captivity	Released
24 Jun.	0/0/1 A	Great Horned Owl	Found wet	Released
7 Jul.	1/0 A	Red-tailed Hawk	Gunshot, Fracture, Eye loss	Released
18 Sep.	0/1 A	Red-tailed Hawk	Hit by car	Died
3 Oct.	0/1 A	Screech Owl	Hit by car	Died
27 Oct.	1/0 I	Red-tailed Hawk	Fractured wing	Pending
29 Oct.	0/1 I	Red-tailed Hawk	Fractured wing	Died
7 Nov.	1/0 A	Sparrow Hawk	No injury	Released
10 Nov.	0/0/1 A	Screech Owl	Dazed by car	Released
18 Nov.	0/0/1 A	Screech Owl	Fractured shoulder	Retained for captivity
24 Nov.	0/0/1 A	Great Horned Owl	No injury	Released
29 Nov.	1/0 A	Red-shouldered Hawk (Buteo lineatus)	Fractured wing	Pending
3 Dec.	0/0/1 A	Great Horned Owl	Fractured wing	Died (stress)
15 Dec.	0/1 I	Red-tailed Hawk	Malnutrition	Released

TABLE TWO

<u>SPECIES</u>	<u>NUMBER</u>	<u>PERCENT</u>
Red-tailed Hawk (<i>Buteo jamaicensis</i>)	12	35.3
Red-shouldered Hawk (<i>Buteo lineatus</i>)	1	2.9
Sparrow Hawk (<i>Falco sparverius</i>)	5	14.8
Turkey Vulture (<i>Carthartes aura</i>)	2	5.8
Great Horned Owl (<i>Bubo virginianus</i>)	5	14.8
Barred Owl (<i>Strix varia</i>)	2	5.8
Short-eared Owl (<i>Asio flammeus</i>)	1	2.9
Screech Owl (<i>Otus asio</i>)	<u>6</u>	<u>17.6</u>
Total	34	100.0

TABLE THREE

<u>MONTH</u>	<u>NUMBER</u>	<u>PERCENT</u>
January	4	11.8
February	3	8.8
March	2	5.9
April	5	14.7
May	6	17.6
June	2	5.9
July	1	2.9
August	0	0
September	1	2.9
October	3	8.8
November	5	14.7
December	<u>2</u>	<u>5.9</u>
Total	34	100.0

NEW PRIMATE STUDY SOCIETY BEING FORMED

A new scientific group called the American Society of Primatologists is now being formed. The founding meeting of the Society will be held April 16-19 in Seattle, Wash. The meeting will be held at the Washington Plaza Hotel and the Seattle Center.

Any person engaged in scientific primatology or interested in supporting the goals of the Society may apply for membership in the group. Annual dues are \$12.00 for regular members, \$6.00 for students and retirees. Send check or money order made out to *American Society of Primatologists*, to W. Richard Dukelow (Acting Treasurer), Endocrine Research Unit, Michigan State Univ., East Lansing, Michigan 48824,

The purposes of the Society are to promote and encourage the discovery and exchange of information regarding primates, including all aspects of their anatomy, behavior, development, ecology, evolution, genetics, nutrition, physiology, reproduction, conservation and husbandry.

WE ARE PLEASED TO PUBLISH THE FOLLOWING REPORTS
OF CHAPTER FORMATIONS. FOR MORE INFORMATION ON
FORMING A CHAPTER AT YOUR ZOO CONTACT: DENNIS
GRIMM, CHAPTER COORDINATOR, BROOKFIELD ZOO,
BROOKFIELD, ILLINOIS 60513...

FROM THE SANTA FE TEACHING ZOO

We are pleased to announce the formation of a new A.A.Z.K. chapter in Gainesville, Florida. This new chapter is composed mostly of student-keepers at the Santa Fe Community College Teaching Zoo, although we hope to have participation from the entire northern Florida area. The first meeting was attended by more than thirty people, and we hope to draw even more interest in the months to come. We are pleased to be a part of the A.A.Z.K.'s growth and we hope we can contribute to its continued success and to the profession for which we are training. We would also be more than happy to receive ideas and suggestions from other chapters.

chapter

Craig S. Dinsmore, Pres.
Santa Fe Assoc. of Zoo
Keepers, Gainesville, FL

FROM DENNIS GRIMM, CHAPTER COORDINATOR

An A.A.Z.K. chapter has been formed at the Overton Park Zoo and Aquarium. The Overton Park Chapter has 21 members and the new officers are:
President.....Ms. Tuli Diamond
Vice-president.....Mr. Ricky Millican
Secretary/Treasurer..Ms. Drue Bauer
The Overton Park Chapter's mailing address is:
Overton Park AAZK Chapter
Overton Park Zoo and Aquarium
Overton Park
Memphis, Tennessee 38112

FROM THE INDIANAPOLIS ZOO

news

The charter for the Indianapolis Chapter of the American Association of Zoo Keepers has recently been reactivated by twelve interested employees of the Zoo.

The newly elected officers of the AAZK Indianapolis Chapter, all zoo employees, are as follows:

Everett Harris	President
Keith Schnell	Vice-president
Lorraine Rutter	Treasurer
Monie Heath	Secretary
Marcia Arland	Executive Committee person

AMERICAN ASSOCIATION OF ZOO KEEPERS
NATIONAL HEADQUARTERS

National Zoological Park · Washington, D.C. 20009



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Animal Keepers' Forum



Dedicated to Professional Animal Care

VOLUME IV

NUMBER FOUR

APRIL 1977

Animal Keepers' Forum

635 Gage Blvd.,
Topeka, Kansas
66606 USA

Edited by Ron Kaufman, Topeka Zoological Park
Associate Editor: Mike Coker, Topeka Zoological Park

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Washington, D.C. 20009
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Nancy Chase	Oklahoma City	OK, NE, KS, MO, TX

COVER DRAWING....ADAPTATION OF ORIGINAL ARTWORK BY PERRY LABELLE

Deadline for each edition of AKF is the 20th of the preceding month

SCOOPS and SCUTTLEBUTT

TORONTO KEEPER STUDIES IN BORNEO

Marilyn Cole, an animal keeper at the Metro Toronto Zoo, and an AAZK member, is studying orangutans in the wild. She arrived in late January at the Orang-utan Project on the island of Borneo where she will study for 6 months with Mrs. Birute Galdikas-Brindamour. The project has gained international recognition and many oranges have been successfully rehabilitated into the wild.

Ms. Cole has been a keeper at the Metro Toronto Zoo for about 2 years, and has been one of the main keepers of the zoo's five orangutans. The idea for the study trip is her own and the Metropolitan Toronto Zoological Society helped raise the necessary funds. She has been granted a six-month leave of absence from her job at the zoo.

En route to Indonesia, Ms. Cole visited a marsupial research station in Australia and journeyed into the Mantangan State Forest on a night search for nocturnal animals. Animal Keepers' Forum will publish more on Ms. Cole's trip in future issues.

Portions of the above were excerpted from Zoo, The Newsletter of the Metropolitan Toronto Zoological Society, edited by Anne Mayhew...

LOUISVILLE KEEPERS RECEIVE DISTINGUISHED CITIZENS AWARDS *from Steve Taylor, Louisville Zoological Garden*

Four keepers at the Louisville Zoological Gardens, Louisville, Kentucky, have been awarded the city's Distinguished Citizens Award from the Mayor. The awards come in the wake of the tremendous job the men did regarding the birth of a grey seal. The men are Eric Blow, 27, Senior Keeper, Dan Welch, 28, and Dave Marshall, 27, both keepers and Steve Taylor, 22, Veterinary Technician. For more details about the birth of the grey seal, refer to the Births and Hatchings section of this issue.

Ed. Note: Our heartiest congratulations to these men and add four more points to the work that all keepers do to preserve our wildlife.

NATIONAL ZOO RECEIVES BOMB THREAT

A bomb threat received Friday, March 11 at the new Administration Building sparked the evacuation of all persons working in the building. The threat, received at 2:30 indicated a bomb would explode at 3:00. Staff members suspected a hoax, but they left the area, just in case. Meanwhile, zoo security police and Metropolitan police searched the building with bomb-sniffing dogs. No bomb was found.

From "Tiger Talk", March 17, 1977

BROOKFIELD ELEPHANT FAILS TO RISE

Brookfield Zoo's female African elephant died March 14, apparently of pulmonary congestion. Widget, 23, was one of 4 elephants being trained in basic movements. She went through a "lay over" maneuver but declined to get up. Staff tried to coax her to rise, but she seemed to want to sleep instead. She had done this before. Keepers kept close tabs on her, checking for stress. Their coaxing ended after several hours and they waited. She died at 11:30 p.m.

BIRTHS HATCHINGS

GREY SEAL PUP BORN AT LOUISVILLE *by Steve Taylor, Louisville Zoo*

The Louisville Zoological Garden is proud to announce a unique birth. A Grey Seal was born to its parents, Lucy and Snoopy, on Thursday afternoon, February 10.

Grey seal births are very rare in captivity; in fact, Zoo officials believe the Louisville Zoo is only the second institution in the United States to have such an occurrence. New York Aquarium is the other, with several successful births.

Animal Staff employees depended on advance planning and preparation to help insure a successful birth. Last November, Lucy was moved to a smaller pool area in the Aquatic complex. A barricade was erected over certain areas of the pool to keep the pup from being born on an uneven surface, which would have increased the danger of its rolling into the water and drowning.

In January, four members of the staff started a rotating 24 hour watch, so there would be help if anything went wrong and to record observations made of the expectant mother. Each man volunteered to spend every fourth night in a small room in the Aquatic Building and checked on Lucy every hour. It was a labor of love for Eric Blow, Dan Welch, Dave Marshall, and Steve Taylor.

The pup, whose sex has not yet been determined, is with its mother in an outdoor pool area. Its estimated weight at birth was 30 pounds; however it has approximately doubled its weight on a rich diet of mother's milk.

Grey seals, while not officially endangered, are relatively rare animals that are protected by the Marine Mammal Act. They are native to areas of the North Atlantic and the Baltic Sea.

This next one also comes from Steve Taylor...

The early morning hours of March 20, marked the second notable birth in as many months for the Louisville Zoological Garden.

Triplet cotton-headed tamarins were born after much waiting and expectations. This is the second birth for these parents. All three babies appear to be healthy and doing very well. The tamarins are exhibited under the supervision of Senior Keeper Marion Jones.

PHILADELPHIA RECORDS FIRST CHIMP BIRTH IN 30 YEARS

Smoke and Mollie, a pair of 10 year old chimpanzees became parents at the Philadelphia Zoo on Monday, February 28. The baby is the first chimpanzee birth at the Zoo in 30 years.

The Philadelphia Zoo achieved the first chimpanzee birth in America in 1928. The parents were sultan and Marianne. Their offspring was named Julius. Sultan lived for nearly 38 years and Marianne, 33 years.

The baby, an un-named male, weighed about 1.35 kg. (3 lbs.) at birth.

Reptile Amphibian potpourri

DEALING WITH PROBLEM FEEDERS IN SNAKES

by
Keith Neitman
Oklahoma City Zoo

One of the more common phone inquiries received by a herpetarium staff member is, "What can I do to get my snake to eat?" Sometimes the animal is new and the owner does not know if it has ever eaten in captivity and sometimes it has been a good feeder up until the time when it just refused to eat. Even a professional herpetologist cannot read a snake's mind and come up with the reason for a hunger strike, but there are many different ways to go about inducing a snake to start or continue feeding.

For new snakes, you must consider their natural food and offer it if possible. Diversity is the key here, should one food item fail, try another and another. Snakes, like people, may have individual preferences at times.

Are you trying live prey or dead prey? Try the opposite. Snakes may go off feeding on dead prey and seem indifferent, but perk up at the sight of a living food item. If the food offered is mice, pinkies or baby mice should be tried, since they offer no threat to the snake. If these are accepted, leave a dead adult in the cage with the pinkies. The trans-pecos ratsnake *Elaphe subocularis*, under my care at the Oklahoma City Zoo will often ignore adult mice unless "primed" with a pinky, then they take everything. Chain feeding can also be tried here if the snake takes the pinky and not the adult. Just as the snake is swallowing the pinky, slowly put the nose of the dead adult in the snake's mouth. Often the snake will keep right on swallowing without noticing the extra food item.

Another method to induce feeding is to harass the snake with the dead prey held on tongs. Many times the snake will get mad enough to grab the prey in defense and then follow through by swallowing it. However, this method may be stressful to the snake if it takes too much harassment to induce a strike, possibly resulting in regurgitation later.

Two obvious factors to consider with a new snake are temperature and shelter. A temperature of 75 to 85 degrees is a good average to keep most snakes. A shelter in the snake's cage may offer it needed security and putting the food in the shelter may give favorable results, since it simulates the prey in a nesting situation.

Some snakes, like the emerald tree boa *Corallus canina* are induced to feed by creating artificial rain showers and then offering the food either during or immediately after the rain.

Scenting food with a snake's preferred prey may help to change it over to a diet that is not only more nutritional, but is easier obtained. Some snakes such as the gray-banded kingsnake *Lampropeltis mexicana alterna* may readily accept lizards, which may be difficult to obtain at times, but steadfastly refuse mice. By snipping the tip of the tail off of a lizard such as a skink, you can smear the blood on the nose of a dead mouse. Then placing the severed part in the mouth of the dead mouse, offer it to the snake. A variation of this is to moisten pieces of shed

lizard skin and stick them to the head of the dead mouse. In both these cases, the snake receives the food you want it to eat and a lizard can live to be used again if necessary.

Sometimes just rubbing the prey on the scenting animal will make it desirable to the snake. Repeated enough times, snakes such as the hognose *Heterodon* sp. can be swithced over from toads, to toad-scented mice and finally to unscented mice.

I am sure there are other tricks that keepers of problem feeders have found to be successful with their particular animals. But sometimes the only trick that will work is time. A snake will often go for months without food, especially during the winter, and then suddenly just snap out of it and feed readily. All a keeper can do, short of force feeding is try all the options available and try them again.

DIRECT ALL COMMENTS TO R.A.P., DIVISION OF REPTILES AND AMPHIBIANS,
NATIONAL ZOOLOGICAL PARK, WASHINGTON, D.C. 20009

2nd ANNUAL REPTILE SYMPOSIUM

Announcing the 2nd Annual Reptile Symposium on Captive Propagation and Husbandry sponsored by the Baltimore Zoological Society, Catoctin Mountain Zoological Park, Zoological Society of Philadelphia, and Reptiland. This year's Symposium is hosted by Northern Ohio Association of Herpetologists, Cleveland Museum of Natural History. and Case Western Reserve University. It is to be held in Cleveland, Ohio on the grounds of Case Western Reserve University and Cleveland Museum of Natural History on Thursday, Friday and Saturday of June 23, 24, 25.

Preregistration can be obtained by writing to:

Bob Johnson
c/o Baltimore Zoo
Druid Hill Park
Baltimore, Md. 21217
Attn: Reptile Symposium

We read from "Tiger Talk", National Zoo's employee newsletter, of the birth over the weekend of February 25 of five golden marmaosets. Two of the tikes were born at Front Royal, the Zoo's Breeding Facility, and triplets were born at the Zoo's Small Mammal House.

PROGRESSION OF A VANISHING ANIMAL...

PERE DAVID'S DEER *Elaphurus davidianus* by Ed Coppage, Overton Park Zoo
and Aquarium

There has been history written on the preservation of the Pere David's Deer. Although we can't repeat history, we would like to let it be known that we the zoological park staff, can also be classified as a group who has shown great affort in also preserving this beautiful creature. We have at OPZA a remarkable herd of these Chinese swamp deer, which consists of one adult male and three adult females. On April 23, 1976, they gave birth to three females. Not only that, but with more great effort, we'll have three more fawns born this year, around mid-spring. Is this effort?

AMERICAN ASSOCIATION OF ZOO KEEPERS



MORE ON UPCOMING CONFERENCES...

Central Regional AAZPA Workshop...May 22 to 25

San Antonio Zoo, San Antonio, Texas 78212

Registration Fees: Members \$20, Non-members \$25, Deadline is April 15

Registration at the Door: Members \$25, Non-members \$30

For registration materials, write to Conference Chairman, care of zoo.

Western Regional AAZPA Workshop...May 8 to 12

Seattle Aquarium, Seattle Washington 98109

Registration Fees: Entire Conference...Members \$35, Non-members \$40

General Sessions (2 days)... Members \$15, Non-members \$20

Deadline is April 5. Make checks payable (and write for registration forms) to Alice Kemper

Conference Secretary

1509 NE 106th

Seattle, WA 98125

Dear Members,

Published on the next page are the nomination forms for the upcoming Board of Directors election. Two seats are up for re-election...those of Mike Dee and Pat Sass. Their terms expire in December of this year. Nominations for the election must be received by me no later than June 30, thereby allowing time for approval by the Nominations and Election Committee during July. The election ballot, and a short biographical sketch of each nominee will then be published in the August issue of AKF. Note that the forms are somewhat lengthy and detailed, whereas the qualifications are relatively simple. The object of this is that the organization wishes to give members every opportunity to become involved in its administration, but you have to be able to handle the paperwork! Please send completed forms to me at the following address:

Jill Grade
8428 O'Melveny St.,
Sun Valley, Calif., 91352

Potential nominees which do not qualify will be notified of this by mail.
Good luck!!

Sincerely,

Jill Grade, Chairwoman
Nominations and Election Committee

NATIONAL HEADQUARTERS

National Zoological Park · Washington, D.C. 20009

I. DUTIES OF THE BOARD OF DIRECTORS: (Constitution, Art. III)

1. To confirm appointments made by the President
2. To control and manage the Association and its property, passing upon acquisition and disbursements with approval of a simple majority of the board
3. To formulate policies, rules and regulations in accord with the Constitution and these By-laws.

II. QUALIFICATIONS FOR NOMINATION:

1. Nominee must presently (current Dues paid) be an active member of AAZK; must have been a member of the Association for at least 1 (one) year;
2. Nominee must agree to uphold the Constitution of AAZK; must uphold AAZK policy wherein the Association is not a labor organization and must not be utilized as such;
3. Nominee must presently be employed as an animal keeper/attendant by a recognized zoo or aquarium in the U.S. or Canada, must have been in the zoological field for at least 2 years;
4. Nominee must agree to appear at board meetings, traveling at his/her own expense (usually in conjunction with regional and national conventions); must agree to devote time to communications pertinent to all board business, answering correspondence promptly and efficiently; must agree to accept committee assignments.

III. Name of Nominee _____ Age _____ Institution _____

Address _____ Phone _____

IV. To

IV. To Nominator: Please explain briefly why you feel the nominee warrants election to the Board of Directors...

Signature of Nominator

V. To Nominee: Please fill in data for a biographical sketch as requested below:

1. Professional background, places of employment, titles, length of service
2. Educational background
3. Membership in AAZK; National and local chapters, #of years, offices held, involvement in activities, AKF contributions, etc.
4. Membership in affiliate organizations; AAZPA, NWF, Audubon, etc.

Please explain briefly why you would like to be a member of the Board of Directors of the AAZK

Please sign below as indicated thereby acknowledging your understanding of the qualifications for election to the Board of Directors, wherein, having completed the nomination form, you do hereby accept nomination.

Signature of Nominee

Be it understood that false information, or failure to complete this form will void the nomination...

A NEW CHAPTER by Helen Moore and Mike Pierce, Santa Fe Community College

On January 20, 1977 the newly formed Santa Fe Teaching Zoo AAZK Chapter conducted its first meeting; its 35 charter members are all student-keepers in the Biological Parks Training Program at the Santa Fe Community College in Gainesville, Florida. Since our Zoo and our Program are not very well known, we would like to take this opportunity to introduce ourselves to the rest of the Association.

The Biological Parks Program is a formal college curriculum of zoo keeper training; as far as we know, it is unique in the United States. It provides students not only with a thorough scholastic background in zoology, but also with practical experience in actual zoo work.

Initially designed as a teaching "laboratory", the six year old Santa Fe Teaching Zoo was built and continues to be operated entirely by students under the directorship of Dr. Raymond Giron. After completing 61 credit hours, with a concentration of 31 hours in Biological Parks Technology, the student receives an Associate in Science degree from the college. In conjunction with the two-pronged approach of this program, which incorporates coursework with animal care experience, all students are required to take a Practicum course. This credited internship as a zookeeper may take place at the Santa Fe Zoo, but preferably can be arranged at a larger mainstream zoo.

One special feature of the Biological Parks Program is its availability, in a separate division, to high school students. Their classroom lectures take place on the college campus, and they are furnished with the same practical experience at the zoo as the college students. All keepers interact with each other on the many field trips that are an integral part of both programs.

Some of our members had acquired Bachelor's degrees before joining the program. Most of them found that their scholastic background alone was not enough to earn them a chance at a keeper position. Here, they can gain the practical experience that no other college can provide, because no other college supports an actual working zoo on its campus.

The Santa Fe Teaching Zoo Chapter hopes to be very active in AAZK. We think that our unique situation will allow us to make a unique contribution to the national organization. We certainly intend to try...

INFORMATION PLEASE!!!

This request for information comes from Charlie Welch, at the Jackson Zoological Park. They have in their collection a pair of Lesser Moustache Guenon *Cercopithecus cephus cephodes*. They may be the only two in captivity. Charlie would like to know if anyone has seen or has in their collection any animals of the subspecies. Also, he would like to know where to locate any information on them. Send the items to:
Charlie Welch, Jackson Zoological Park, 2918 W. Capitol St., Jackson, Miss. 39209.

GIANT SPONGES FOUND

From *Aquaticus*, a publication of the John G. Shedd Aquarium in Chicago we found this item.

Giant Sponges, some up to four feet across have been discovered growing on barrels of radioactive waste dumped years ago off San Francisco. Atomic scientists say they have dissected sponge samples and the creatures appear to be feeding on the radioactive waste leaking from the barrels. Ordinary sponges are less than 4" across.

Polar Bears Being Studied

NLWS from the USDI

The world's polar bear population has become the subject of an intense study for the past several hundred years, the population appears stable at 20,000 animals worldwide.

The greatest threat to these bears is posed by oil and gas exploration, drilling, and extraction on the North Slope of Alaska. Human activity in and near denning areas could cause fewer bears to come ashore to den and, therefore, den on the sea ice. It could also prompt mother bears to desert land dens earlier than normal, taking bears to sea prematurely. Oil spills from offshore drilling rigs or tankers could reduce the insulating value of the bears' fur as well as damage the food chain below these carnivores. There is a potential for development along the entire north Alaska coast from Point Hope to the Canadian border.

Polar bears occur only in the northern hemisphere in association with Arctic sea ice at six isolated locations ringing the polar region and including the territorial waters of the United States, Canada, Denmark, Norway, and the Soviet Union. Even in the waters so far north these bears today carry traces of mercury, DDT, and PCB's.

Protection afforded the polar bear varies. In the United States, the Marine Mammal Protection Act of 1972 transferred management authority for the polar bears to the Federal Government and limited the kill to Alaskan coastal Eskimos for subsistence or for manufacture of traditional native articles of clothing or handicraft. In the Soviet Union polar bear hunting stopped in 1956. Norway stopped hunting in 1971 and enacted a five year moratorium on all killing in 1973. In Greenland only Eskimos or long-term residents may kill bears using traditional hunting methods. In Canada hunting stopped in 1968, and has been regulated with quotas.

In 1975 and 1976, American and Soviet biologists met in Leningrad and Moscow to develop a long-range research goals for marine mammals. The U.S. Fish and Wildlife Service in 1976, initiated research with the use of satellite tracking of radio-collared bears to document their distribution, migration and their denning patterns. Other studies are focused on the basic biology of polar bears and their diets, and more accurate physiological data.

At the present conflicts exist over the protection of polar bears, and the rights of non-native residents, who feel discriminated against.

ENDANGERED SPECIES CHIEF APPOINTED

John Spinks, 34 has been named Chief of the Office of Endangered Species with the Interior Department's U.S. Fish and Wildlife Service. As Chief of the Endangered Species Office, Spinks will be responsible for administering all Service programs including listing and delisting of species.

VIRGIN ISLAND LIZARD PROPOSED FOR ENDANGERED LIST

The St. Croix lizard has been proposed for the endangered species list because mongooses and construction activity threaten the species' continued existence.

REGULATION ON INTERNATIONAL TRADE IN WILDLIFE ISSUED

Regulations to implement the Convention on the International Trade in Endangered Species of Wild Fauna and Flora were published by the Interior Department's U.S. Fish and Wildlife Service in the February 22, 1977, of the Federal Register. These regulations become effective on May 23, 1977, and are designed to aid law enforcement and allow monitoring of commerce in wildlife and plants.

NEW PROPOSED INJURIOUS WILDLIFE REGULATIONS

The Interior Department's U.S. Fish and Wildlife Service published proposed wildlife importation regulations in the Federal Register on March 7 which would streamline and clarify the present regulations governing injurious wildlife.

The proposal also would add a number of forms of fish and wildlife to the present list of injurious wildlife that may be imported only under permit issued by the Secretary of the Interior for scientific, educational, zoological, or medical purposes.

Public comments are invited through May 6, 1977. Comments should be addressed to the Director, U.S. Fish and Wildlife Service, Washington, D.C. 20240.

The proposal would add the following species to the existing list of injurious wildlife for the reasons assigned: Vampire Bats, Ferrets, Stoats, Weasels, Bulbuls, Starlings, Mynahs, Japanese White-Eye, African Clawed Frog, and Giant Toad.

Also from "Tiger Talk", we have learned that the National Zoo has had a Schalow's Touraco hatch. January 31 was the date, and by February 21, the chick was about ready to fledge. At that time, the chick was removed and is being hand-reared. This may be a first-time in captivity hatching for the Schalow's Touraco...

NEW CURATOR OF EDUCATION AT KANSAS CITY ZOO by Don Rasmussen, Kansas City Zoo

The Kansas City Zoological Gardens are proud to announce the addition to the zoo staff of Dr. Tumaini Y. Mcharo as Curator of Education. Dr. Mcharo, a former Director of the Serengeti Research Institute and a native of Tanzania, is initiating a new and comprehensive keeper training program. It will cover all basic fundamentals and attempt to give individualized instruction to those keepers that are interested in an advanced and specific education. This should fill a longstanding void in keeper education at the Kansas City Zoo. We feel very fortunate that Dr. Mcharo will share his extensive experience and knowledge with us.

Veterinarians and Keepers.....

By Don Rasmussen, Kansas City
Zoological Gardens

TONGUE AMPUTATION IN A POLAR BEAR

If there is Murphy's Law for zoo keepers it is "*If anything can go wrong, it will...and it'll probably happen on a Sunday.*" Recently on a Sunday, morning I received a report that one of our bear's tongue was split. I'm naturally suspicious of any report originating with the public. On the outside chance that it was not an exaggeration, I was compelled to investigate.

What I found was by no means an exaggeration or a pretty sight. A fourteen month old polar bear cub's tongue was ripped along the base of the mouth and was stretched to hang outside the mouth six inches, and split about an inch and one half from the tip. The animal was immediately separated from the others and taken off display. It is our belief that another bear in an adjacent cage pounced or bit on an inquisitive tongue when it investigated through the bars. Although there is protective wire lining the bars, the bears must have pulled a corner loose.

The veterinarian repaired the tongue, but it was unknown how much nerve damage was done. She could not retract her swollen tongue. The next few days, we tried different ways to moisten the tongue and tube feed her, but at every attempt to tube feed her the desire to chew would cause her to bite and chew on her own protruding tongue.

After four days the bear cub anticipated the DVM's recommendations and amputated her own tongue, leaving only about two inches from the base of the tongue. With this accomplished, she took to the tube feeder with a new gusto and was learning to chew without a tongue in a matter of days. To chew she must toss the food around in her mouth without the benefit of a tongue, and has learned to suck up water instead of lapping it up as her cagemates do. A similar situation, again unobserved, a

A similar situation, again unobserved, happened to one of our adult polar bears at approximately the same age. That was over eight years ago, and there has been no noticeable disadvantage other than her adapted eating habits.

WELCOME TO YOU, HONOLULU!!! from Dennis Grimm,

The AAZK Chapter in Honolulu, Hawaii has recently been renovated. Their new president is Sean McKeown, and their Secretary/Treasurer is Francis Hirai.

The Chapter's address is: Honolulu AAZK Chapter
Honolulu Zoo
Kapiolani Park
Honolulu, Hawaii 96815

AND, WE FORGOT TO MENTION IN LAST MONTH'S ISSUE that the address of the Santa Fe AAZK Chapter in Florida is: Santa Fe AAZK Chapter
Santa Fe Teaching Zoo
Santa Fe Community College
3000 N.W. 83rd St.,
Gainesville, FL 32601

JESSING BIRDS OF PREY

by
Marlou Thompson
Drawings by Cheryl Spencer
Santa Fe Teaching Zoo

A common misconception of most non-falconers is that it is cruel to keep a bird tethered to a perch. Studies at the Santa Fe Teaching Zoo have shown that birds maintained in this way are usually in much better condition than caged birds. A raptor in the wild will spend over two-thirds roosting. After it has fed it is content to sit and preen and observe its surroundings. A captive hawk or eagle that is fed without having to hunt is also satisfied to stay on its perch.

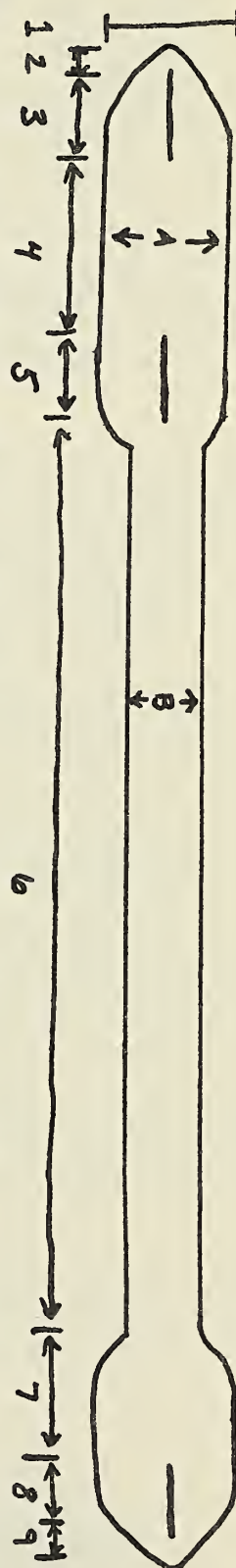
A variety of hawks and eagles have been successfully displayed on jesses (leather straps that go around each leg) here at the Santa Fe Zoo, including the following: Harris Hawk, Red-tailed Hawk, Red-shouldered Hawk, Kestrel, Peregrine, Tawny Eagle, Golden Eagle and the Bald Eagle. Descriptions of perches, safety precautions and sources of equipment supply can be obtained from a number of falconry books. (*North American Falconry and Hunting Hawks* by Beebe and Webster or *The Magnificent Birds of Prey* by Phillip Callahan are recommended) This article will deal only with the preparation and application of the jesses and leash we found to be most useful for display purposes.

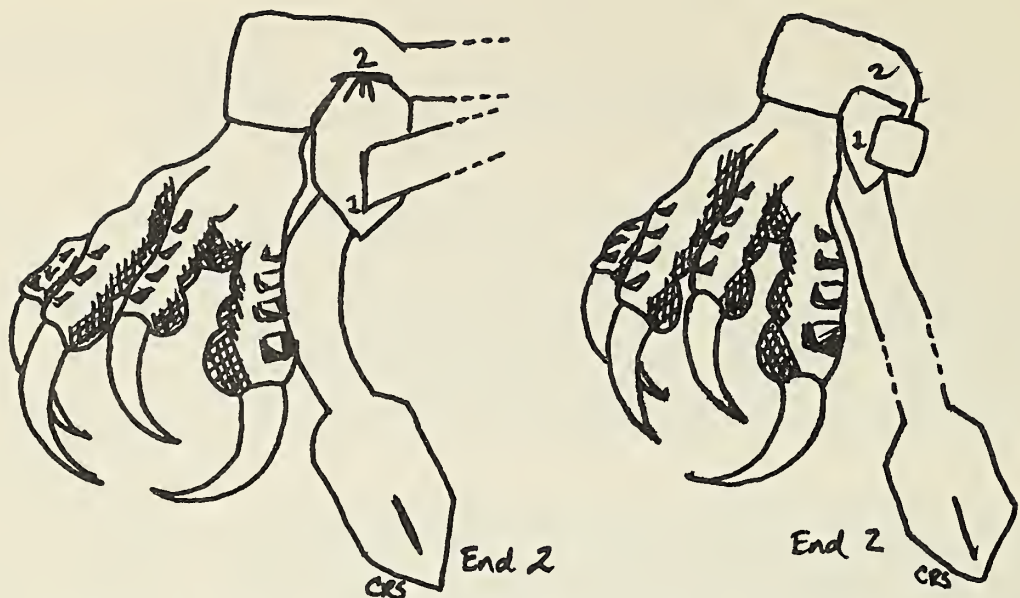
The perch and jesses must be designed correctly for the bird or it is liable to become entangled and injure itself. The jesses should be made of a tough, lightweight (3 to 4 oz.), thin leather. Their size varies with the size of the bird, over-all lengths ranging from 6" for a kestrel to 14" for a Bald Eagle. The following text refers to the drawing at the right...

- A...must be wide enough to prevent jesses from cutting into bird's leg
- 1... $\frac{1}{4}$ to $\frac{1}{2}$ inch from end of leather so it won't tear
 - 2...slit length equal to width of jess at B
 - 3...distance between slits should equal circumference of bird's leg just above foot plus enough extra for comfortable leeway
 - 4...slit length equal to width of jess at A
 - 5...long enough to let swivel hang so it is not under the bird's foot; short enough to discourage tangling
 - 6...slit length equal to diameter of largest ring on swivel

After tracing the pattern and cutting the jess out of the leather, soak it in pure Neatsfoot Oil until it is soft and pliable (overnight). After the jesses are on the bird, they will continue to need regular oiling to keep them soft enough to avoid irritating the bird's legs.

Refer now to the drawings at the top of the next page. A jess is put on the bird by circling the leg with the large end, soft side in, and slipping End 1 through



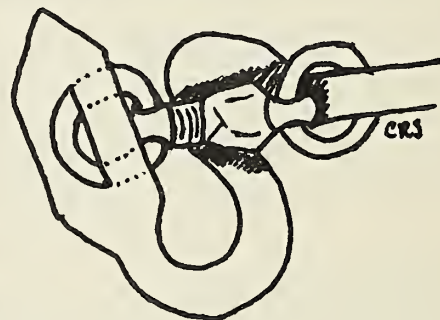


Slit 2. End 2 is then passed through Slit 1 and pulled snug. Avoid a tight bind, but remember that the leather will continue to stretch as the bird wears it. If the slits are too long or the fit is too loose, the bird may eventually be able to pull his foot right out of the jess.

After they are on the bird, the loose ends of the jesses must then be attached to a swivel to prevent tangling. Swivels can be purchased from a manufacturer of falconry equipment, or a figure eight fishing swivel may be used. Pass the end of one jess through the top ring of the swivel, and then slide the slit over the whole swivel from bottom to top. Pull tight. Repeat for the second jess.

(See Drawing at right)

Finally, one end of the leash is tied to the bottom ring of the swivel in a falconer's knot. Nylon cord has proven most effective for the leash because of its great durability and strength. However, it is vital to remember to hold a flame to the knot for a minute to melt the nylon or the knot will slip. The leash should be just longer than the perch height, but short enough to prevent the bird from becoming entangled with any nearby obstacles. A shock absorber should be attached to the leash near the perch end. Simply use fishing line to sew 4 to 6 inches of 1 inch elastic across a loop of the leash a few inches longer than the elastic. (See below)



Birds of prey displayed on jesses at the Santa Fe Teaching Zoo are located in small clearings in our woods, almost totally screened from the visitor trails by vegetation. For those visitors who use their eyes,

glimpsing one of these birds sitting in apparent freedom in the forest can be a most exciting experience.



1976 ANNUAL REPORT
AMERICAN ASSOCIATION OF ZOO KEEPERS

by
Bela J. Demeter, President

AAZK has undergone quite a number of changes in the past year, probably more than at any other time since its inception in 1967. One of the problems we, like any other organization, have is communication. I hope everyone of you will take time to read this in order to become better acquainted with the workings of the Association and thereby relate to your fellow keepers what we are doing and what we are all about.

CONSTITUTION

We have no records of when the original constitution was drafted, but I assume it was shortly after Richard Sweeney formed the organization in December, 1967. A major revision of the constitution was drafted by Rick Steenberg and was ratified by the membership August 17, 1974. During the San Diego conference (August 26, 1976), several major changes were adopted by the delegates. These involved organizational aspects of the Association such as abolition of the Executive Secretary position, changing the number of seats on the Board of Directors and setting the national conferences on an annual basis rather than biannual.

CONFERENCES

The AAZK national conference in 1976 was held at San Diego August 23 to the 26th and was coordinated by Gerald Thomas. At that time, we decided to hold future national conventions during the Fall because of the difficulty of scheduling vacation time in the Spring and Summer months. Our only stipulation on scheduling these conferences is that they not coincide with AAZPA's conventions which are usually held in early October. The next AAZK national conference will be held at the National Zoo in September of 1978. Sheryl Gilbert is the coordinator for that event. The 1979 conference is set for Portland, Oregon and will be headed up by Jonolyn Wilson.

Vice-President Mike Dee and I were both at AAZPA's annual conference in Baltimore last October. We met with the Inter-Association Committee and discussed ways in which our respective organizations could work together for mutual benefit. One recommendation of the committee was that an AAZK affiliate member be placed on the Bean Award Committee since we and AAZPA present the joint Bean Award. I hope to meet with AAZPA's Board this April to discuss the Inter-Association Committee's report.

During this coming Spring, AAZK will be represented at each of the five AAZPA regional workshops, in an attempt to increase communication between the two organizations and among AAZK members. We are not yet at a stage where we can coordinate regional conferences of our own on any regular basis, hence the utilization of the existing AAZPA workshops. A time slot has been set aside during each conference for an AAZK session where a representative, a Board member or a Regional Coordinator can chair a meeting. We hope to make non-members aware of our functions and goals through discussions and distribution of our brochure and newsletter. Individual AAZK members will get an opportunity to meet with their coordinators, Board members and other AAZK members. We have not, to my knowledge, attempted this sort of interaction before, but I hope it will be productive and that future conferences will find us playing an even greater role in this important communication process.

there's more →

BOARD OF DIRECTORS

The composition of the Board of Directors underwent some changes in 1976. At the start of the year, the Board consisted of the following members: Rick Steenberg (Executive Secretary), Bela Demeter (President), Chris LaRue (Vice-President), Ed Roberts, Pat Sass, Terry McDonald, and Mike Dee. On May 31, Rick Steenberg resigned from the Board for personal reasons. Chris LaRue assumed the Executive Secretary position until other arrangements could be made. Terry McDonald resigned from the Board just before the convention and the number of Board members was subsequently changed to five, abolishing the Executive Secretary position. Chris LaRue resigned from the Board on September 29 because his new curator position made him ineligible to hold national office. Ron Kaufman, co-editor of the newsletter along with Chris, was appointed to take Chris' place on the Board. We had generally agreed during the Board meetings in San Diego to keep the editor of AKF on the Board if at all feasible to maintain a smoother operation. Mike Dee was voted to replace Chris as Vice-President.

In other Board business, Ed Roberts is currently working on obtaining recognition of the AAZK membership card for free admission to zoos throughout the country. Pat Sass is heading up the project to produce an AAZK directory, which may be out in late Spring, 1977.

REGIONAL COORDINATORS

During 1976, the entire regional coordinator system was modified. The number of positions was expanded from four to ten. Coordinators were selected on the basis of interest and willingness to work for the Association. They were furnished with stationary, brochures and lists of zoo personnel that we were able to acquire. Our main purpose at this point is to distribute the brochures as widely as possible to those who might have an interest in AAZK. Coordinators keep correspondence as well as names and addresses on file for future reference. These will aid us in surveys that we may want to conduct later. Coordinators are also sent AAZK membership lists for their areas for use in evaluating their progress and as a further aid to communication. It is too early to evaluate the effectiveness of the system; but since October, approximately 5000 brochures have been distributed. As we become better established, coordinators will help with conferences and chapter development. They will give AAZK closer contact with all of the membership.

AWARDS PROGRAM

AAZK currently awards four certificates yearly: the R. Marlin Perkins Award for Excellence, the Edmund Thomas Memorial Award for Zoo Keeper Education, the Robert Crawford Memorial Award for Best Article in AKF and the AAZK-AAZPA Certificate of Merit to the keepers involved with the Edward H. Bean Award.

The recipients of the AAZK-AAZPA Certificate of Merit last year were: Pam Davis (National Zoo), Roger Henneous (Portland), Richard Ross, M.D. (Institute for Herpetological Research) and Leroy May, Bill Brown, John Banks and Sam Hood (Belle Island Aquarium). This was for their work with respectively, the North Island Brown Kiwi, Asiatic Elephant, White-lipped Python and the Freshwater Stingray. Michael J. Harjung, of Lincoln Park, was presented the R. Marlin Perkins Award for Excellence. The Crawford and Thomas awards were not given this year.

there's more...

John Siegal, awards committee chairman for several years, resigned in July. He was frustrated by the lack of response he had gotten from zoos on the Perkins award; only three zoos sent in nominees for the award. Jeff Roberts assumed the chairmanship of the awards committee during the San Diego Conference. He was asked to reevaluate the awards program and to offer suggestions on how it could be improved and revitalized. Jeff has come up with several suggestions, but the program is not in final form as of this writing. All the certificates will be reprinted, though, since they are out of date.

NOMINATIONS AND ELECTIONS COMMITTEE

In November Jill Grade (Busch Gardens, CA) was appointed chairwoman of the nominations and elections committee. Serving on the committee with her are Kent Benedict (Atlanta), Bob Hoffman (Milwaukee), Liz Choules (Salt Lake City), and Jeff Perry (Buffalo). The committee's function is to prepare nominations forms and elections ballots for publication in AKF and to compile the results of the election. The 1977 elections will follow about the same schedule as set forth in the constitution. One item that the committee will work on next year, is rescheduling nominations and elections so that new officers will have ample opportunity to make plans for attendance at the swearing-in ceremony at the national conference in the Fall.

CHAPTER AFFAIRS

Dennis Grimm, Coordinator of Chapter Affairs since October, 1975, reported on the status of AAZK chapters at the San Diego conference. The overall picture of AAZK chapters is still incomplete due to the poor response to the survey Dennis initiated in April. The survey asked for total membership, active members, officers, chapter functions, degree of cooperation with host zoo, and future involvement with National Headquarters. As of December 1, Dennis had received replies from only nine chapters. Since then, however, seven other chapters have either been formed or reactivated so things seem to be looking up.

Much of AAZK's success will depend upon chapters being able to sustain interest in the organization, formation of new chapters in as many zoos as possible, and more communication and cooperation among chapters themselves and between chapters and National Headquarters. We realize that the evolution of chapters into a meaningful part of the organization will not take place overnight and that this goal is to be regarded as a long-term project of AAZK.

We did initiate a few projects last year in conjunction with chapter participation. Brookfield has taken over the publication of the journal, Lincoln Park is working on the directory, Milwaukee is making up AAZK T-shirts, and Memphis is working on AAZK decals. I hope to see more of these projects undertaken in the coming year under the direction of the Coordinator for Chapter Affairs and the assistance of the Regional Coordinators and chapter presidents.

PUBLICATIONS

Under the capable direction of Chris LaRue and Ron Kaufman, *Animal Keepers' Forum* has been the principal vehicle of communication for AAZK since March, 1975. The final merger of AKF and AAZK was established at the San Diego conference. AKF was allotted a budget of five dollars for each membership (\$2.50 per Student) and \$956.50 which we netted from the conference was earmarked to hire

.....continued.....

secretarial assistance for AKF. When Chris resigned as co-editor in September, Ron assumed the position. Mike Coker has since joined him as Associate Editor.

AKF's format has changed from the 8½ x 7 mimeographed copy to the present 8½ x 5½ offset version, consistent with The Keeper. The type was reduced to allow for more text without adding to the weight. AKF went to first-class postage last year, also, to allow for faster delivery and better service. Last year also saw the delivery of the 1974 Conference Proceedings, edited by Mike Dee. The proceedings of the 1976 conference will be included in the next volume of The Keeper, a practice which we will adopt in the future. Layout and editing of The Keeper was taken over by the Brookfield chapter of AAZK and should be in print by Spring of 1977.

NATIONAL HEADQUARTERS

Formerly, headquarters for AAZK were located wherever the Executive Secretary was. Originally it was in San Diego, then it moved to Minnesota, and subsequently to Topeka. When Rick Steenberg resigned in May a new location was again needed. In July the National Zoo allowed us to move our headquarters to the park on what I hope will be a permanent basis. The Friends of the National Zoo also agreed to donate \$1500 to help pay for a part-time secretary. Elizabeth Glassco, a docent and FONZ guide is now our administrative secretary and is the main reason that your memberships are processed in comparatively short order and our financial records are in balance. The presidency will move elsewhere in 1978, but we will maintain our office at the National and we will probably retain Lee for more than the eight hours a week she now works. I anticipate an increased membership over the next few years and that will generate more funds for operating more funds for operating the office. Whatever the cost, it is well worth it in terms of the continuity and service we receive.

Headquarters had quite a lot to do last year due to the shuffle, relocating of records, printing new stationary and so on. Even so, we made several advances in the status of the organization. A brochure that was proposed in February was finally printed in September and distributed to all the members as well as 300 zoos in the United States and Canada. The zoos also received a letter requesting a list of their personnel for us to mail brochures to. We also asked for all job openings to be sent to the newsletter as a further service to our membership. Approximately 30 zoos or ten percent responded to our mailing.

AAZK applied for and was granted tax-exempt status in 1976. The exemption applies only to the parent organization, but we will pursue exemption for chapters at a later date. At the suggestion of Kent Benedict, Headquarters studied a proposal to protect the Indigo Snake in Georgia, received approval from the Board of Directors and sent a resolution to the Georgia Department of Natural Resources supporting the proposal. The proposal passed and the Indigo Snake is now protected in Georgia.

MEMBERSHIP

The move from Topeka and organizing new operating procedures has given us some problems with membership lists and mailing labels, but overall, memberships are processed smoothly due to Lee Glassco's diligence. Initial renewal slips were sent to all members in October, followed by a second notice at the first of the year for about 300 late renewals. That notice recaptured 33% as of March 1. Our membership is now about 650; that should increase by next year. We are looking into the possibility of tying into another computer system in Washington. That would enable us to break down the categories and eliminate the step of sending changes to Topeka.

NONHUMAN PRIMATES IN BIOMEDICAL RESEARCH by William Montagna

This introduction to nonhuman primates, their biology and behavior, focuses on the utility and importance of these animals in biomedical research. The author begins with a general discussion of the selection of animals suited for specific experiments, then proceeds to a review of the primates, their evolution, distribution, diversification, and biological properties. There are two accounts of behavior: the first deals with behavioral patterns in general; the second discusses behavioral patterns within a society as exemplified by studies of natural troops of Japanese macaques.

The final section gives examples of diseases that are common to monkeys and man: tumors, arterial disorders, cholesterol gallstones, diabetes mellitus, yellow fever, malaria, and tuberculosis. In this connection the author strongly emphasizes the specific experimental ways in which investigators have used monkeys to better understand the course of the diseases, and, ultimately, to develop therapeutic measures to combat them.

There is a foreword by Sherwood L. Washburn, professor of anthropology, University of California, Berkeley.

William Montagna is the director of the Oregon Regional Primate Research Center, Beaverton. He is also a professor and head of the division of experimental biology and professor of dermatology at the University of Oregon Health Sciences Center, Portland. Dr. Montagna has written or edited more than 25 books, among them *Comparative Anatomy, The Structure and Function of the Skin*, and, with R. J. Harrison, *Man*, a widely known book on the biological, sociological, and cultural aspects of man.

This is the third volume in the series of Wesley W. Spink Lectures on Comparative Medicine. It is based on the lectures given in 1975 at the University of Minnesota and Carleton College.

Courtesy of the University of Minnesota Price is \$9.50

MEMBERSHIP INFORMATION

Affiliate (Keepers) and Associate.....	\$10.00 annually
Foreign.....	\$15.00 annually
Student.....	\$ 5.00 annually
Contributing (Organizations).....	\$25.00 annually

All memberships include subscriptions to Animal Keepers' Forum and to The Keeper, the Journal of the American Association of Zoo Keepers... All new members receive an AAZK shoulder patch and a membership card good for free admission to many zoos and aquariums in the U.S. and Canada.

Memberships are pro-rated semi-annually, except for Student memberships. Extra patches are available from AAZK Headquarters, for \$1.00

Send name and address and a check or money order to:

AAZK Headquarters,
National Zoological Park,
Washington, D.C. 20009

AMERICAN ASSOCIATION OF ZOO KEEPERS

NATIONAL HEADQUARTERS

National Zoological Park · Washington, D.C. 20009



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Associate Editor: Mike Coker, Topeka Zoological Park

Administrative Secretary, Cecilia Sauer, Topeka Zoological Park

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Dennis Grimm, Brookfield Zoo

Coordinator for International Affairs
Tom Goldsberry, Portland Zoo

Awards Committee Chairman
Jeff Roberts, Brookfield Zoo

Nominations and Election Committee
Jill Grade, Chwn., Busch Gardens, CA
Kent Benedict, Atlanta Zoo
Liz Choules, Salt Lake City Zoo
Bob Hoffman, Milwaukee Zoo
Jeff Perry, Buffalo Zoo

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Larry Sammarco	Lincoln Park	WI, IL, IA, MN, ND, SD
Randy McGill	Detroit	MI, OH, IN
Janet Phipps	Baltimore.	MD, NJ, CT, PA, DEL
Bernard Feldman	Buffalo	NY, VT, NH, MA, RI, ME
Marylee Vandiver	Gainesville	FL, AL, GA, SC
Michael Yelverton	Baton Rouge	LA, MS, AK
Jay Levine	Knoxville	TN, KT, NC, VA, WV
Tom Goldsberry	Portland	WA, OR, ID, MT, WY
Carole Udell	Los Angeles	CA, AZ, NV, CO, UT, NM, HA
Nancy Chase	Oklahoma City	OK, NE, KS, MO, TX

COVER DRAWING....ADAPTATION OF ORIGINAL ARTWORK BY PERRY LABELLE

Deadline for each edition of AKF is the 20th of the preceding month

SCOOPS and SCUTTLEBUTT

RARE FROGS EXHIBITED FOR FIRST TIME *from the Bronx Zoo*

The azure arrow-poison frogs on display April 14 at the Reptile House of the Bronx Zoo are being exhibited for the first time anywhere in the world. Known as *Dendrobates azureus*, the frogs were not discovered until 1969. They are found in Surinam, on tiny forest "islands" in the Sipaliwini Savanna, a remote area surrounded by rain forest near the Brazilian border.

The species belongs to the family of arrow-poison frogs, which are found only in Central and South America and are renowned for their toxicity. It is from various members of this group that the Indians extract the venom...by roasting the frogs over a fire...with which they tip their hunting arrows. Although this particular species is not used for that purpose, its poison is highly toxic and creates a very unpleasant skin irritation if it comes into contact with open cuts and scratches.

The frogs were collected by Russel A. Mittermeier and Nicole Duplaix, zoologists whose field work is being supported by the New York Zoological Society. In 1969, M.S. Hoogmoed, a Dutch herpetologist, was the first scientist to find the frogs. It is doubtful that the total population exceeds more than a few thousand individuals, but since Sipaliwini Savanna is within a Surinam nature reserve, it is protected. The only human inhabitants in the area are several groups of Trio Indians, who rarely enter the frogs' habitat.

OLDEST SNAKE DIES AT PHILADELPHIA *from the Philadelphia Zoo*

The world's oldest known snake, a South American boa constrictor, died at the Philadelphia Zoo on April 15, 1977. She was euthanized because of medical problems associated with advanced age.

The boa, named "Popeye" attained the maximum known longevity record for any snake of 40 years, 3 months and 14 days.

The snake was first acquired by Mrs. Eugenai S. Shorrock of Reading, Massachusetts on December 31, 1936. The snake arrived at the Philadelphia Zoo on December 3, 1970.

Because of its age, the snake was never exhibited at the Zoo. It measured 180 cm. (6 feet) long.

CONGRATULATIONS!!!

to Jay Levine, a keeper at the Knoxville Zoo. Jay has been accepted into the Veterinary Medicine School of the University of Tennessee. Jay is also AAZK's Regional Coordinator for the area.

GET WELL SOON!!!

to Don Hartfiel, DVM, the staff Veterinarian at the San Antonio Zoo. Dr. Hartfiel was hospitalized for about two weeks following a sudden illness on 12 April. He expects to return to work following an extended period of rest and recuperation.

NEWCASTLE DISEASE OUTBREAK . . . from the AKF staff

On Friday, 4 March, officials of the USDA's Animal and Plant Health Inspection Service confirmed the outbreak of Velogenic Viscerotropic Newcastle Disease, known as VVND or Exotic Newcastle Disease. The disease has been confirmed in southern California and in Virginia. Basically Birds, operated by Marian Martinez and William Hampton, and a breeding farm operated by Al Hinkle are involved in California. The facility affected in Virginia is owned by Harold Yanik at Charlotte Courthouse. Birds shipped by Yanik did not include any that went to zoological facilities.

All zoos that received any birds from Al Hinkle or Basically Birds on or after January 21 may have exposed their collections. Collections may have been secondarily exposed if they received birds from Hot Springs, AK, Tuscon, AR, Albuquerque, NM, Jennings, LA, and Spencer, Enid and Oklahoma City, OK. Institutions in those cities initially received birds from Basically Birds. *The USDA has determined that the birds did not come through a USDA approved quarantine facility.*

Velogenic Viscerotropic Newcastle Disease is the most infectious, virulent form of the disease. ND is a viral disease that was first reported in 1926, in a chicken flock in Newcastle-on-Tyne, England. It has since been reported worldwide and occurs in most orders of birds, though the Galliformes and Psittaciformes appear to be particularly vulnerable. About 125 distinct strains of the disease have been described, and they can be divided into 3 groups - lentogenic, mesogenic and velogenic.

The divisions are based on the relative virulence of the virus. Lentogenic strains generally produce only mild symptoms. Sometimes the infected birds show no signs at all. Mesogenic strains are more virulent. Young birds up to about 4 weeks of age are likely to be killed by these strains. Velogenic strains are the most deadly. They will kill not only young birds, but also those older than 4 weeks.

Relatively effective vaccines have been developed for the lentogenic and mesogenic strains. A vaccine has also been developed for the velogenic strains. However, the velogenic vaccines merely remove clinical signs of the disease. *Affected birds still shed active virus in their feces and respiratory exudates, and can infect other birds.* For this reason, control measures can be ineffective and test and slaughter programs are started. Thus, USDA is striving toward eradication of this strain, rather than control.

VVND tends to concentrate its pathology in and around the viscera of the affected birds. Hence, the term "viscerotropic" in the name.

The disease causes edema around the face and wattles. Edema and hemorrhages of the trachea will produce signs of respiratory difficulty in the initial stages. Birds that survive into the later stages may develop signs of nervous disorders. The course of the disease is short, lasting only one to three days. The mortality rate is high and no treatment is known.

Infected birds may begin to disseminate virus approximately 2 days after initial exposure and a full day before actually showing any outward signs. Transmission occurs by *aerosol* from coughing and by *fomite*, from contaminated boots, tools and clothes. Average incubation period is five days.

continued on next page

The disease can infect man. The common sign is conjunctivitis. Those individuals at greatest risk are those handling the viscera of infected birds. The irritation lasts three to seven days.

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AAZPA Newsletter, Vol. 18, No. 4, April, 1977

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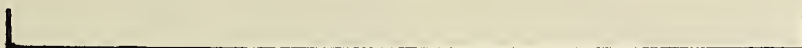


U. S. PROBES VIOLATIONS OF LACEY ACT BY ZOOS

A two-year federal investigation into alleged violations of the Lacey Act is expected to end soon with 20 to 30 indictments anticipated. The investigation, which reportedly involves as many as eleven zoos, is now before a federal grand jury in Philadelphia. Private collectors and roadside zoos, as well as several animal dealers are also involved in the query.

Such rare reptiles as green tree pythons, Fiji Island iguanas, Fiji Island boas, green tree monitors, Johnson's crocodiles, Mackloth's python and Papuan monitor lizards may be involved. The reptiles were allegedly captured illegally in their countries of origin and then smuggled into the United States. Reportedly, some zoos became involved when they purchased some of the animals, which were then allegedly transported across state lines for delivery. The Lacey Act prohibits interstate transportation of illegally taken wildlife.

Even though many indictments covering broad areas of wildlife trafficking may be handed down, the whole truth may not be known for some time. Indictments, of course, are merely charges that illegal activities have taken place. The alleged activities must then be taken before a trial for disposition. *ANIMAL KEEPERS FORUM* will be monitoring the course of this matter and will publish more definitive details as they become available.



BIRTHS HATCHINGS

MARINELAND RECORDS BIRTH OF KILLER WHALE

Marineland of the Pacific in Palos Verdes, California recorded the first birth of a killer whale in captivity on 28 February, 1977. Unfortunately, the calf lived only 15 days. The seven foot youngster was thought to be a female. No nursing was observed. The baby is believed to have been retarded, though the cause is not known.

GOLDEN EAGLES HATCH AT TOPEKA

The Topeka Zoo's breeding pair of American Golden Eagles have hatched two chicks. The events took place on the 23rd and 25th of April. The chicks appear healthy and are being reared by the parents in the exhibit.

MANDRILL BEING HAND-REARED . . .by Ann Littlewood, Washington Park Zoo Portland, Oregon

The Washington Park Zoo nursery staff is hand-rearing a male mandrill born February 10, 1977. Another female in our troop has also given birth, a male on March 26, 1977, which she is rearing herself. We are trying to do some comparisons between the hand-reared and the mother-reared infants, especially vocalizations, facial expressions, and mother (or mother-surrogate) interaction. *We would like to correspond with anyone who has hand-raised a mandrill or who has studied their social behavior or development. Write Ann Littlewood or Jonolyn Wilson, Washington Park Zoo, 4001 SW Canyon Road, Portland, Oregon 97221.*

EAGLES OF THE WORLD by Leslie Brown

In this book, one of the world's foremost authorities on eagles brings together about all that is known about them. The author describes, among many others, the white-bellied sea eagle, erne, harpy eagle, grey-headed fishing eagle; the black-breasted snake eagle, Madagascar serpent eagle, and the Philippine monkey-eating eagle, not only the second largest eagle but also the most threatened. Published by Universe Books, 381 Park Avenue South, New York City 10016; 1977. Price \$12.50

PUBLICATIONS AVAILABLE

The Wild Sheep In Modern North America, the text is the proceeding of a workshop on the management of wild sheep held at the University of Montana in 1974. Available from; Boone and Crockett Club, 413 N. Washington Street, Alexandria, Virginia 22314
Cost is \$10.00

Reptile Amphibian potpourri

THE SIGNIFICANCE OF SHEDDING

by
Ernie Wagner
Woodland Park Zoo
Seattle, Washington

The daily routine of most reptile houses begins with rounds to check all animals in the collection. Special attention should be given to any snakes or lizards which are shedding and records should be kept of all sheds. There are several things which shedding can signify aside from the normal periodic renewal of the epidermal layer.

The first thing to watch for is abnormal sheds where more than one animal in a cage becomes cloudy simultaneously. This can often be an indication of a mite infestation and shedding appears to be a natural defense against mites. The snakes should be closely examined, particularly for tiny white flecks on the scales, and small black specks in the water container, which are a sure sign of mites.

Inability to shed completely can sometimes signify poor health, but more often it is an indication of low humidity which can be corrected by spraying the cage just before shedding is due to occur.

Abnormally frequent sheds are an indicator of illness and any snake which begins shedding more often than normal should be closely examined for potential problems. Stools should be checked to see if they appear normal, as this can often indicate intestinal problems, and fecal samples should be checked for parasite infestation.

Finally, shedding is a regular part of the reproductive cycle in snakes and possibly lizards and can be used to accurately time egg laying. Most species of snakes appear to have a specific period of time that a post ovulatory, pre-egg laying shed occurs. This period of time is species specific and was first noted by Dr. Glenn Slemmer at the University of British Columbia. In 145 clutches of corn snakes in his lab, this shed ranged from 9 to 12 days prior to egg laying, with an average of 10 days. In Blair's kingsnake this shed averages 7 days before egg laying and in Burmese pythons it averages 14 days prior to laying. This is most useful when trying to determine when to set up a gravid female with egg laying medium. Following egg laying there is another shed which occurs with fair precision, about the same length of time after laying, as the shed which occurred before laying.

As with many other things which occur in captive behavior there is often an underlying cause and this can act as a message to the interested observer, especially when these can improve your husbandry techniques.

*Direct all comments to RAP, Division of Reptiles and Amphibians,
National Zoological Park, Washington, D.C. 20009...*

HADDOCK AND HOSPITALITY

by
Tom Goldsberry
Washington Park Zoo
Portland, Oregon

When you stop to think of it, it's really amazing. Great Britain, slightly smaller than the state of Oregon, has more than eighty zoos, wildlife parks, bird gardens, and similar animal related sanctuaries.

These range in size from the tiny 3/4 acre Verulamium British Wildlife Zoo at St. Albans to the huge 450 acre Woburn Wild Animal Kingdom located on the sprawling 1300 acre estate of the Duke of Bedford in Bedfordshire.

Very few zoos in Great Britain are municipally run, hence "only" fifteen-twenty of the parks could be classed as zoos in the North American sense of the word. However, this does not prevent Britons from enjoying the many, varied private collections that have gone commercial in the past few years. In many instances the specimens have been personally collected by the conscientious owner while he held a position at some far-flung outpost of the British Empire. A personal relationship such as this with the animals usually guarantees the animal a more tranquil environment not always possible or practical in larger zoos.

Good examples of the smaller type establishments are the Penscynor Bird Gardens in Glamorgan, Wales, which regularly breeds Leadbeater cockatoos; and the Welsh Mountain Zoo at Colwyn Bay, North Wales, which not only displays a select collection of reptiles from all over the world, but one of the best collections of birds of prey in Europe, complete with displays of free-flight eagles and falcons.

The Tower of London, better remembered for beheadings than for beasts, housed a menagerie for 600 years. Today, eight ravens are the only animals found on the Tower grounds. These are cared for by a specially appointed Keeper of the Ravens. They range in age from eight to twenty-two years. All are pinioned and banded, and are protected by law. Each bird is allotted thirty pence (about fifty cents) per week for rations. Although there is no accurate way of determining the value of money in earlier times, it is recorded that in 1252 a polar bear cost four pence a day to maintain and leopards and lions six pence per day.

Perhaps the most unusual zoo in Great Britain is the Saint Catherine's Island Zoo located in Tenby, Wales. The zoo is on a small island fortress built in 1870 off Tenby's beach and is accessible only on foot at low tide. Started in 1968, this zoo has already achieved breeding successes with African civets, marmosets, and stump-tailed macaques.

It's no longer true that, "The sun never sets on the British Empire", and maybe the British lion has been defanged a bit in recent years, but in the field of animal welfare, Britain is alive and breeding well.

Next month: The Regent's Park Zoo, London.

This is part one of a six-part series on British zoos

All references and sources will follow part six.

Veterinarians and Keepers.....

by Joseph T. Bielitzki, DVM, MS
Topeka Zoological Park

ON THE IMPORTANCE OF BREEDING DATES

Every once in a while an unexpected pregnancy occurs right before our very eyes. In many instances, nobody knows anything at all about how it could have happened - the male has never shown any interest in the female. One thing for sure - nobody saw it happen, but why are breeding dates important? Everyone knows that when she's ready she'll deliver her foal, calf, cub, litter, pup or whatever. Sure, most of the time she will without any problems at all, but once in a great while a dystocia occurs. A dystocia is what happens when she is unable to deliver her young for any reason and can result in the loss of both the dam and offspring or at least one or the other.

A simple concept, by knowing the breeding dates of an animal and by adding on the gestation length, everybody knows when parturition (birth) should occur. This allows for certain nutritional and management modifications to be made, if necessary, as pregnancy progress, and it allows for increased observation as gestation comes to an end. This means that the dam has the greatest chance of receiving assistance if she needs it, and more importantly, when she needs it. This does not mean that flighty or nervous species should be subjected to multiple midnight awakenings, but a quick and quiet glance is usually enough. There are several species whose privacy should never be interrupted. Common sense should indicate how observations should be conducted.

Preventive medicine is the practice of avoiding problems. Reproductive problems, especially birth difficulties, are best avoided by being prepared and, in short, not being "caught with your pants down." Aside from insuring that the dam is alright, early detection of parturition also allows for early detection of neonatal difficulties, such as inability to nurse, or rise, or any of the large number of congenital problems which may occur. Again early detection might save the newborn animal's life.

How do you know when to say that an animal should be pregnant? Well, for induced ovulators it is easy, since these females go out of heat shortly after breeding, the day of breeding is the first day of pregnancy. For spontaneous ovulators, it is a little more difficult. As a rule of thumb, the day at the midpoint of receptivity should be chosen as day one of pregnancy since ovulation occurs at a different point in each species estrus period.

Gestation length is quite variable even within the same species, but for an individual member of the species it should be reasonably consistent after the first pregnancy. Properly kept records and observation of breeding can reduce the number of nervous nights while waiting for an important birth. Hopefully, these practices should also minimize neonatal death losses.

TO: EDITOR, AAZK NEWSLETTER

FROM: DEWEY GARVEY, DIRECTOR, NIABI ZOO, ROCK ISLAND, ILLINOIS

On a cold February night about 10:00 p.m., I received a phone call. The voice on the other end was that of a very personable fellow. He said that he represented the Miami World Herald, and he was traveling to the mid-western zoos to see how they were doing during this extremely cold winter. We discussed zoo problems during this cold weather, people who control zoo budgets and zoos in general. He stated that his article would put zoos' winter plight before the people. He also said that his only purpose was to *HELP* zoos. Joe Bush, as he stated his name, asked if he could tour the Niabi Zoo with me the next morning. I agreed.

The morning Joe came was one of the nicest days we had seen in weeks; the temperature was 12 degrees and the high was to be about 15 degrees. Joe and his friends arrived on schedule and we began to tour the zoo. Joe and his friends were not interested in seeing our public buildings. (We only have two.) I told him that our Feline house and Monkey house are used for winter quarters and we have to load these buildings up with animals during the winter. But he had no interest in seeing these areas, although we did go into the Monkey house to warm-up during the tour. While in the Monkey house they did not even think to look at any of the animals or exhibits. I had up until this point not suspected anything, although I did think it strange that a big city newspaper in Miami would want to send reporters to see little-out-of-the-way Niabi Zoo.

After our stop at the Monkey house, I became suspicious that this Joe Bush was deceiving me and began to ask a few more questions as we walked around. "*Joe, I forgot, which newspaper do you represent?*" He said the Miami paper, but at the same time one of his friends said "*A Miami based news agency.*" Still, I did not ask for any identification.

We next stopped to look at the llamas, they really looked good. They were walking around and eating. One llama has a tip of one ear missing. This happened when she was young. She got into a fight with another llama and had it bitten off. Joe asked how long she had had her ears frost bitten. When I explained what happened to her ear, Joe said nothing.

After the stop at the llama enclosure, very little was said. The only people who talked were Joe and his friends. We toured the aoudads, mouflon sheep, sicilian donkeys, artic fox, collard peccary, eagles, hawks, owls, peacocks and turkeys. All these animals were outside. Many pictures were taken and Joe and his friends kept discussing things quietly.

We were about through with the tour when I asked if they would like to see Kathy, our asiatic elephant. Joe asked if the elephant was in heated quarters. When I said she was, Joe said he did not really care to, but, being he was here they would take a look. When we got to the elephant indoor enclosure I opened the door and explained to Joe about the animal, and, as I do with every one, gave Joe my ideas about elephants. Joe said very little but I did hear one of his friends say "*get a picture of the chain on that elephants foot.*" We had not yet been up to clean the elephants stall, so we had not yet taken her off the chain for the day. They did not seem to understand that most zoos chain their elephants at night.

continued on next page

That concluded our tour. As we walked back to Joe's car, I stated that we have three barns of animals that were wintering our camels, goats, zebra, rheas and zebu. Joe did not have time as he had to go to the Henry Doorley zoo next.

I finally decided it was time to exchange cards. I asked Joe for his, but unfortunately he had left all of his cards and wallet at the hotel. Even his friends did not seem to have any identification with them. I may be a slow minded person, but all during the tour I had gotten more suspicious and had reached several different conclusions. The one main thought that stuck in my mind turned out to be the real one.

This personable fellow that toured the zoo did not represent the Miami World Herald nor a Miami based news agency. He was out to find any piece of dirt that he could put in print for the *National Inquirer*. The real name for this Joe Bush is Peter Batten. The article printed in the 3/8/77 issue of the *National Inquirer*, had not one good thing to say about any zoo he visited. We were not mentioned, although I am sure we aren't perfect in his eyes. The style of Peter Batten seems to be that if you can't say something bad about a zoo, don't say anything at all. Maybe what Peter Batten did was investigative reporting, but I have always thought that the truth would get a person much more than deceit. I would have treated Peter Batten just the same as I treated Joe Bush. I would have cooperated with Peter Batten even though I very strongly disagree with him.

Peter Batten, the next time you wish to visit the Niabi zoo, let me know. I will cooperate with you. Lie to me again and I will have you removed from the Niabi zoo. Maybe if you would sit down and discuss zoos rationally with someone who has the opposite view of yours, you would come to understand the world of zoos. Its hard for me to believe after reading your book, that you would have one objective bone in your body. I agreed with some of your points about zoos, but you have so greatly over shadowed these good points with bitter attacks on different zoos and zoo people, that I cannot accept any of your views at all.

I hope that if Peter Batten visits your zoo and represents himself as he is, that you will talk with him. But if he lies to you, as he did to us, turn him away. This should be a lesson to everyone. When you talk to anyone about your zoo, be objective. If you have an axe to grind, grind it with the people you disagree with, NOT with a stranger who seems to have a sympathetic ear.

*This just in from Tiger Talk.....National Zoological
Park, Employees Weekly
Newsletter*

THE WORLD'S FIRST LASER BEAM MOUSETRAP

It consists of a functioning laboratory laser with an ingenious wire hammer solenoid-activated spring mechanism. The entire system is mounted on a polished walnut base which can be handsomely displayed in any office, or rodent-infested area. The bait used is peanut butter. The price is only \$1500.00 and comes complete with a jar of peanut butter. Is the world ready to beat a path to a better mousetrap?

The next issue of AKF will feature a new column; positions available in the zoo profession.

NEW YORK ZOOLOGICAL SOCIETY FUNDS CONSERVATION PROJECTS WORLDWIDE...

The funding of seven projects for 1977 by the Conservation Committee of the New York Zoological Society has been announced by Frank Y. Larkin, Chairman of the Committee. Three of these projects concern the wildlife of Central and South America and represent the Society's increasing commitment to that continent.

In Peru, John Cassidy will collect data on the status and distribution of the yellow-tailed woolly monkey. Limited to forest patches in the northern part of the country, this animal is threatened by hunting and destruction of its habitat. It is hoped that, based on Cassidy's data, a national park and captive breeding program will be established by the Peruvian Government, which is one of the most responsive and conservation-oriented in South America.

The Society is also providing funds for the Asociacion Costarriacence para la Conservacion de la Naturaleza. The most active conservation organization in Costa Rica, ASCONA is supportive of efforts by President Daniel Oduber to expand the national parks system and further develop local conservation programs. The third Latin American project is in Surinam, where Russell Mittermeier will continue to study that country's eight primate species.

In addition, the Society funded research projects in Asia, Africa, Bermuda, and the Bahamas. In Thailand, Dr. Warren Brockelman is studying the relationship between the pileated gibbon and the white-handed gibbon in Khao Yai National Park. The pileated gibbon is an endangered species, and this project, which involves Thai students, should stimulate conservation awareness among the local people.

Isabirye Basuta will be working in the Kibale Forest of Uganda, where he will study the effects of selective felling of trees on the population numbers, species diversity, food habits, and reproduction of rodents. Such studies are necessary to determine the results of logging operations upon the fauna of tropical rain forests.

In the Bahamas, Dr. Walter Auffenberg plans to complete his study of the Andros Island rock iguana. Dr. Auffenberg has recommended that his study area be designated as a new national park. This is the only area where the iguana remains relatively undisturbed, but without protection, this species will become extinct within the next ten years, as a result of land development and introduced predators, such as dogs and cats.

The Society also continues its long-term support of the cahow conservation program on Bermuda by David Wingate, who is studying nesting sites and the management of the birds habitat.

SPOTTED OWL APPEARS IN GOOD NUMBERS

Bureau of Land Management biologists have located 193 nesting pairs of spotted owls in western Oregon, and only about 63 percent of the owl's habitat on BLM lands has been inventoried, the Wildlife Management Institute reports. A total of 325 pairs have been found on all lands in western Oregon. The group, made up of scientists from the Forest Service, Oregon Department of Fish and Wildlife, U.S. Fish and Wildlife Service, and Oregon State University, believes that the existence of 400 pairs of the owls would make official listings as an endangered species unnecessary and allow the bird's removal from the state's threatened species list.

EIGHT CROCODILE SPECIES PROPOSED FOR ENDANGERED LIST

Eight crocodile species found in over 40 countries around the world have been proposed for treatment as endangered species because they look like other crocodile species that are, in fact, listed as endangered.

The Endangered Species Act of 1973 allows a "similarity of appearance" treatment if law enforcement problems result from look-alike animals.

Public comments are invited on this proposal through July 6, 1977. The proposal was published in the April 6, 1977 Federal Register.

The eight species being proposed occur in Central and South America, China and South and Southeast Asia. The force of American law does not, of course, extend to these foreign countries. American citizens, however, are forbidden under the law to trade or traffic in these animals, their parts or their products. None may be imported or exported from the United States.

The species are: the common caiman, brown caiman, dwarf caiman, smooth-fronted caiman, American crocodile (other than the Florida population, which is already listed as endangered), Johnston's crocodile, New Guinea crocodile and the salt-water crocodile.

This initiative is being taken by the U.S. Fish and Wildlife Service largely because of law enforcement problems caused by the inability to identify crocodile products at American ports of entry. The proposed eight species so closely resemble the eight species that are already listed that inspectors have substantial difficulty differentiating between the endangered species and the "look-alikes" species, especially in the case of products made from their hides.

PINE BARRENS TREEFROG IN FLORIDA PROPOSED FOR ENDANGERED LIST

The Florida population of the Pine Barrens treefrog, a 2-inch resident of boggy hillsides in Okaloosa County, has been proposed as endangered.

The proposal also includes a determination of critical habitat for the species. Interested persons have until June 3, 1977 to comment on the proposal.

In Florida, the Pine Barrens treefrog is currently known to exist in only seven sites in the hill region of the panhandle. Four local colonies have been exterminated since this species was discovered in 1970; continued development and clearing of land for agricultural use threatens the existence of remaining populations.

WE ARE DELIGHTED TO ANNOUNCE THE FOLLOWING ITEMS ON CHAPTER FORMATIONS. FOR INFORMATION ON CREATING AN AAZK CHAPTER AT YOUR ZOO, AQUARIUM OR PARK, CONTACT: DENNIS GRIMM, CHAPTER CO-ORDINATOR, BROOKFIELD ZOO, BROOKFIELD, ILLINOIS, 60513...

The folks at the Audubon Park Zoo in New Orleans have formed a chapter and have elected Anne Marie Orlowski as President. You can contact them by writing to:

Audobon AAZK Chapter
Audubon Park Zoo
6500 Magazine Street
New Orleans, LA 70118

chapter

A big welcome goes east to the Lion Country Safari AAZK Chapter. They've elected as President, Lorie Tauer. Mark Jeffars is the Vice President and Carleton Bailie is the Secretary/Treasurer. Contact these folks by writing:

Lion Country Safari AAZK Chapter
King's Dominion
Box 166
Doswell, Virginia 23047

news

Dennis Grimm, AAZK's Chapter Coordinator has put together a list of current AAZK Chapters. It's available to any member by writing to Dennis at the Brookfield Zoo, Brookfield, Illinois 60513..

DATES TO REMEMBER

The Second Symposium on Endangered North American Wildlife and Habitat

Date : June 1-5, 1977

Place: The Breckenridge Paviion Hotel, One Broadway, St. Louis, Missouri

Speakers: Stewart Udall, Marlin Perkins and many others.

Costs: Registration is \$15.00 per person

Banquet June 4, Saturday evening is \$15.00 per person

Rooms are available at the Washington University dormitories for \$6.00 per night. Please contact the Unversity for accommodations:

Guest Housing, Washington University, Box 4500, 6515 Wydown Blvd.

Hotel Accommodations: Rooms are \$32.00 for single, and \$42.00 for double. Mail registration and banquet fees to: The Wild Canid Survival and Research Center, Box 16204, St. Louis, Missouri 63105 Mail room reservations to: The Breckenridge Paviion Hotel, One Broadway, St. Louis, Missouri 63102

The due date for registration was May 7, so please hurry if you plan to attend.

ANIMAL KEEPERS' FORUM

Quarterly Statement
for the period ending 31 March, 1977

Balance (1 January, 1977) \$ 161.33

Income:

Topeka Friends of the Zoo, (share of Gestefax maintainance)	46.57
Memberships share received	3070.75
Received from sale of T-shirt	5.00
Received from sale of journal	5.00
Received from erroneous subscription request	5.00
Total income	3293.65

Disbursements:

Printing Expense	611.53
Postage Expense	308.67
Office Expense	53.01
Office Supplies	20.44
Refund for erroneous subscription request	5.00
Miscellaneous Expense	6.00
Total Disbursements	1004.65

Cash on hand, 1 April, 1977 (sub-total)	2289.00
Petty cash	10.16
Total cash on hand	2299.16

MEMBERSHIP INFORMATION

Affiliate (Keepers) and Associate.....	\$10.00 annually
Foreign.....	\$15.00 annually
Student.....	\$ 5.00 annually
Contributing (Organizations).....	\$25.00 annually

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COVER DRAWING...ADAPTATION OF ORIGINAL ARTWORK BY PERRY LABELLE

Deadline for each edition of AKF is the 20th of the preceding month

SCOOPS and SCUTTLEBUTT

FLAMINGO TRAGEDY AT PHILADELPHIA....by Sue Roemer, Philadelphia Zoo

After a wait of nearly three years, our greater flamingos arrived from Africa in August 1976. 17 birds were placed on our African Plains - Phase II exhibit in a fenced-in enclosure to be removed when they settled down. Since October, 1976 I've worked with these beautiful birds five days a week. Although they were still too nervous to try and pet, they had come to know me and didn't panic when I approached.

About three weeks ago the fence was removed. Our only fear was their getting in the way of the hoofed stock. These fears never came to light. Instead, something far worse occurred. On Tuesday, April 26, a flamingo was found with its legs broken. Food pans were missing, and the ground hornbill was found in a tree on Phase I.

On Wednesday morning I came back after two days off. I found large rocks in the water, a flare and a food pan inside their shelter and a food pan in the water. Obviously, this bird had been the victim of vandals. That night the vandals struck again.

The flamingos weren't as lucky this time. They were savagely murdered. Five were dead when the vets arrived at 9:00 p.m. three were euthanized and another taken to the University of Penn Vet Hospital. Three children were caught between the ages of 10 and 13.

When cleaning up, after the crime lab left on Thursday morning, I found three food pans in the water and we took out a bucket and a half of rocks and concrete from the pool and the surrounding areas.

I now face seven very nervous flamingos. One has a broken wing and an eye missing. The Stanley cranes and the crowned cranes escaped without injury. The ground hornbill escaped the best way he knew how -- he was found behind the reptile house. With seventeen birds we had a good chance for breeding . . . with seven, very little.

"McDonalds Restaurants" have offered to replace six of the birds, but the difficulty is getting them. And what do the parents of these three boys say, "They didn't mean any harm."



The Philadelphia Zoo established a special Flamingo Fund as a result of several generous donations following the tragic killings of 8 African Greater Flamingos during the early evening of Wednesday, April 27.

First to respond was the local McDonald's Operators Association, representing the fast-food chain's owner-operators of southeastern Pennsylvania, southern New Jersey and Delaware. They pledged to donate funds for the purchase of six flamingos, which are valued at \$800 each.

The Golden Slipper Club of Philadelphia, which is an internationally known philanthropic organization, committed funds to purchase one flamingo.

Electric Factory Concerts, a Philadelphia based producer of national popular music concerts, donated funds for three of the attractive birds.

To date, six other concerned individuals have donated a total of \$80.

The flamingo which suffered a broken leg on Monday, April 25, as a result of rock throwing, died Tuesday, May 3, in spite of intense medical care.

ZOO'S RARE RHINO DIES IN SAN DIEGOfrom the Philadelphia Zoo

Golden Girl, the Philadelphia Zoo's rare Indian rhinoceros which was sent to San Diego's Wild Animal Park in December for breeding, died Thursday, May 12, Zoo officials report.

A pathology team under the direction of San Diego Zoo Pathologist Dr. Lynn A. Griner conducted an autopsy on the rhino at the San Diego Zoo. Initial studies indicated Golden Girl had severe inflammation of the large bowel, but the exact cause of death has not yet been determined.

The autopsy also revealed she had an abnormal genital tract because of fibroid tumors of the uterus. Philadelphia Zoo Veterinarian Wilbur B. Amand said the tumors would appear to have precluded her carrying a baby to full term. After the autopsy is completed, the body will be shipped to Los Angeles where it will be placed on display at the Los Angeles Museum.

Golden Girl, one of the four Indian rhinos presently in the United States was shipped to San Diego on December 7, 1976. Her Philadelphia Zoo mate, Golden Boy, had not shown sufficient interest since they were placed together in 1955.

WE COULDN'T THINK OF A MORE APPROPRIATE PIECE TO CONCLUDE OUR "SCOOPS AND SCUTTLEBUTT" SECTION.....

MANURE SALES PROVE SUCCESSFUL FOR PORTLAND CHAPTER....from the Washington Park Zoo

The nine elephants at the Washington Park Zoo are responsible for the financial backbone of this A.A.Z.K. Chapter. They provide us with enough manure to supply the community with an organic fertilizer.

With the cooperation of the Washington Park Zoo under Warren Illifs direction and the P.R. assistance of Paige Powell, A.A.Z.K. member and P.R. person for the zoo, our chapter has made approximately \$450 in "ZooDoo" sales. This is a major part of our operating capital.

Presently we have a waiting list of over 40 orders and orders are still coming in. The cost is \$4.00 per pick-up load (approx. 2 yds.).

This chapter's future plans include making "ZooDoo" available in smaller quantities for novelty purposes. We hope to meet some of our 1979 convention costs through these sales.

BIRTHS HATCHINGS

EMUS AT WILDLIFE SAFARI . . . by Laurie Marker and Royce Embanks,
Wildlife Safari, Winston, OR.

This year's clutch of emu eggs have again been incubating in our Humidair incubator. Total so far has been 118 eggs layed. After three years of unsuccessful hatching, our first chicks this year began hatching at approximately 56 days.

We have heard it is harder to keep the chicks alive after hatching than it is to hatch them, and we are finding this to be true. Basically, our only problem is with their legs spreading. We've contacted numerous authorities and are using the recommended diet, plus giving the chicks vitamins with D-3 and di-calcium phosphate tablets as recommended. We have also used several different surfaces for them to walk on and have found turf to be the best.

We feel now that the problem may be caused by over-feeding (rapid weight gain vs. skeletal development), and lack of large runs for exercise.

At present, two surviving chicks (from a total of 10 hatching) are doing well in a large outside run and are being fed only during the day.

We would greatly appreciate communication from any keepers who may have further information about rearing emu chicks.

PANDA'S BREEDING ATTEMPT FAILSfrom "Tiger Talk" National Zoo
Employees Newsletter

As far as the giant pandas are concerned, spring has come and gone and along with it hopes for a baby panda, at least for the time being. Ling-Ling went into heat as expected in early April. She was off her feed from the 3rd, became restless and exhibited other behavioral changes that alerted the Panda House staff and Research Division to her approaching receptiveness. Hsing, at first, showed no great interest in his co-panda but as things progressed with Ling, he was gradually overcome by her appeal. They were put together for the first time this year on April 11 for twice daily encounters that lasted until April 18. From the 11th until the 15th, Hsing was very much taken by Ling and mounted many times but never quite made it. On the morning of the 16th, after about an hour of very intense frolicking, things had improved, up to a point. But, by then, their patience appeared to wear thin and a fight developed. The scrap lasted nearly five minutes and left both Ling and the Zooworkers on the scene visibly upset. The morning encounter was ended shortly afterwards. The Saturday afternoon and Sunday encounters on the 16th and 17th were the most encouraging. Ling-Ling stood for the male during these sessions but Hsing-Hsing showed behavior typical of an inexperienced animal, failing to orient himself properly with Ling-Ling. By the 18th, the pandas interest in each other had waned considerably. By the 19th, it was apparent that this spring's breeding season was over. There is an outside chance that Ling will come into season this fall but most likely, we will have to wait until the spring of '78 when Hsing will be another year older.

ANDEAN CONDOR HATCHES AT BRONX *from the New York Zoological Park*

Bronx Zoo's World of Birds recorded the hatching on May 3 of a male Andean Condor. The chick, named "Little Mac" (short for "MacAngel"), weighed 172.3 grams. The chick is being raised by the staff at the zoo.

CONGRATULATIONS! *from Jill Grade, Busch Bird Sanctuary, California*

Congratulations National Zoo on the January '77 hatching of a Schalows Touraco (April AKF, pg. 48). You may be pleased to know, however, that during the summer of 1976, Busch Bird Sanctuary (formerly Busch Gardens) Los Angeles, had six such hatchings...two young to each of three parent pairs. All six chicks were successfully reared by their parents, and have since been moved, along with the rest of the Sanctuary's touraco collection, to the Los Angeles Zoo.

IT'S ALWAYS A PLEASURE TO WELCOME A NEW CHAPTER TO THE AAZK SCENE. FOR INFORMATION ON CREATING AN AAZK CHAPTER AT YOUR ZOO, AQUARIUM, OR PARK, CONTACT: DENNIS GRIMM, CHAPTER COORDINATOR, BROOKFIELD ZOO, BROOKFIELD, ILLINOIS... 60513.

The Philadelphia Zoo crew has formed a chapter. They've elected Robert Berghaier as President. Patsey Emery is Vice-president, Pat Aschner is Treasurer, Sue Roemer is their Secretary and Chuck Ripka is their Public Relations man. You can contact these folks by writing:

chapter

Philadelphia AAZK Chapter
Philadelphia Zoological Gdn,
34th and Girard Avenues,
Philadelphia, PA. 19104

The group has 11 active members with an increase in sight. They plan to visit some nearby zoos, and are sponsoring a lecture series for their members.

AND...

news

The Portland AAZK Chapter has elected new officers for 1977. They are:

President: Mike Keele
Treasurer: Wes Peterson
Secretary: Kit Lewis

Their membership numbers 13. They will be devoting more time to developing the AAZK National Convention to be held in Portland in 1979...

HADDOCK AND HOSPITALITY

by
Tom Goldsberry
Washington Park Zoo
Portland, OR.

In a country nurtured in the concept of tradition and respect for royalty, it's only fitting that Regent's Park Zoo, London, be known as the "Queen of the English Zoos".

Throughout its turbulent 150-year history, the London Zoo has had its share of eccentric and colorful characters, but as eccentric and colorful as they may have been, they all shared one common denominator -- a desire to make the London Zoo one of the world's finest.

Today, Regent's Park is home to more than 6000 animals including 1000 birds representing 450 species. The keeper staff is composed of eighty keepers, twenty-two of whom are bird keepers. There are three women keepers.

This being my first visit to the London Zoo, I needed little urging to accept Mr. Colin Rawlins', the zoo's affable and gentlemanly director, offer of, first lunch with one of the Senior Keepers, and then a tour of the grounds.

While we waited for the Senior Keeper to arrive, Mr. Rawlins told me some of the early history of the zoo. How at one time, all the keepers lived in the immediate vicinity of the zoo, and that it wasn't unusual for two or three generations of the same family to be working as keepers at the same time. Nowadays, most of the keepers live in the London suburbs, but six bachelor keepers and one Senior Keeper share a house on the zoo grounds.

Much of the zoo's early collection was imported by a keeper, Alfred Cops. Cops built up a fine collection over a six year period which was eventually transferred to Regent's Park in 1832. He was paid one Pound (about \$1.73) per week. (Some things never change). At that time the well-dressed, swinging keeper wore, by way of uniform, a top hat, a bottle-green coat, a striped waistcoat, breeches and Wellington boots with painted tops.

To have lunch at the Zoo Society's Member's Restaurant is to catch, probably a final glimpse of genuine old-world elegance and just plain, common courtesy. From the pleasant and meticulous maitre d' to the newest waitress on the staff the accent was on service and hospitality, a far cry from the typical ursine snarl found in most restaurants. My wife and I later learned that hospitality was the rule rather than the exception while visiting British zoos.

My host for lunch and the first three hours was Senior Large Bird Keeper, Doug Ellis. Doug, a twenty-nine year veteran at Regent's Park speaks with pride of accomplishment of his years at the zoo and his work with the Imperial Pheasant *Lophura imperialis* which culminated in the first successful breeding of this species in the United Kingdom in 1974. In 1975, one hatched, but died within a week; in 1976, two were raised successfully. As I was there at the beginning of the March-April breeding period I could observe the nest building preparations that were already underway for 1977.

After we finished lunch it was time for business. Having just polished

continued on next page

off a lunch of Cornish crab-meat soup with brandy; hot, tender haddock, and washed down with a few bottles of Lowenbrau, even the scraggiest of beasts assumes a majestic appearance.

No article about the London Zoo would be complete without mention of the Giant Pandas. A prestige animal in any zoo, the London pandas, because of the large and well-balanced collection, in no way detract from the less spectacular specimens. The present London pandas arrived in September 1974, a gift of the Chinese government to the British people. Ching-Ching, the female whose name means "Crystal Bright", and Chia-Chia, "Most Excellent and Very Best" were both born in the autumn of 1972.

Ron Davis, although not one of the regular panda keepers, told of some of the difficulties surrounding the first weeks following the panda's arrival. The Chinese contingent that accompanied the pandas was so large and so reticent, that it was almost impossible to even determine who the keepers were. There were also misunderstandings on how the food was to be prepared. Eventually all the problems were resolved and the animals are now thriving in their new homeland.

They are now housed in an older primate cage until new accommodations are built. They are separated most of the time by a wire fence. The female has periodic urine and feces tests to determine estrogen levels and possible pregnancy. The pandas are fed ordinary bamboo gathered from Sussex and other southern English counties.

This is the second installment of a six-part series.

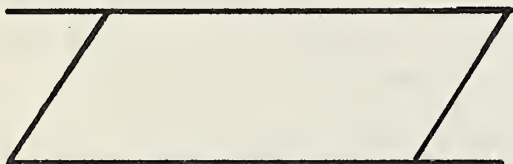
Next month: Regent's Park, London, continued.

THIS COMES IN FROM JILL GRADE, CHAIRPERSON, NOMINATIONS AND ELECTIONS COMMITTEE...

Remember, nominations for the upcoming AAZK Board of Directors election must be in no later than the 30th of this month. Don't hesitate...AAZK is only as good as you make it. Send in your nomination today! See the April issue of AKF, pgs. 44-45, for procedures and a sample form...

TO THOSE IT MAY CONCERN:

I would like to take this opportunity to express my appreciation to all the folks who sent cards and letters to me upon hearing of my injury by our elephant charges.
(A.K.F. March issue)



I am pleased to report that I am happily back to work as of April 19th. My excuse for not answering your cards and letters is that I'm left-handed, and naturally that was the side to be injured.

Again, thanks!

Roger L. Henneous
Sr. Keeper, Elephants
Washington Park Zoo
Portland, Oregon

BEGINNING NEXT MONTH, AKF WILL FEATURE A NEW COLUMN ON THE GREAT APES, COORDINATED BY FRED DITTMAR, PRIMATE KEEPER AT THE OKLAHOMA CITY ZOO. We will run this much like the R.A.P. column, in that correspondence, or articles should be addressed to Fred. His address is:
511 N.W. 29th, #204, Oklahoma City, OK. 73103.

Reptile Amphibian potpourri

TIMING COPULATION IN SNAKES

by
Ernie Wagner
Woodland Park Zoo
Seattle, Washington

Last week one of the keepers noted that our Florida kings on display were attempting to copulate. I went to check and on close examination I saw that both males were excitedly crawling over each other while the only female in the cage was lying quietly in a corner of the cage. Wondering why the males were stimulated if the female was not ready to copulate, I went to a holding cage behind the display cage and checked our other female Florida king. By holding her gently in one hand and pressing my finger firmly into her ventral surface while she crawled around the leg of a chair, I could feel a series of well developed ovarian follicles about the size of marbles. She was obviously ready to copulate and was probably producing pheromones which were stimulating the males on display. I placed her in an aquarium with a male and the snakes copulated for the next two days.

Behavior of either the male or female can be a clear indicator of readiness to copulate. When a female is ready to copulate her ovarian follicle will be enlarged and hard and, with some practice, palpable through her ventral surface. The snake should be allowed to crawl slowly through the hand, and it helps to hold a thin, soft cloth in your hand to let the snake glide more smoothly. Practice with a female that you know is in this condition, such as a female that has just finished copulating. During this period the female will become increasingly restless as she searches for a male. This restlessness will begin in the early evening but within a few days she will be abroad and very active during the day. Unusual restlessness in males housed anywhere in the vicinity is another sure sign that something is going on. As the female enters this period she is probably producing pheromones which cause the same behavior in the male.

According to Dr. Glenn Slemmer of the University of British Columbia, this period of ovarian development lasts about three weeks, but if copulation does not occur within the first two weeks, there may be a low rate of fertility or the follicles may be reabsorbed by the female anyway.

Once again, this is a case of observing the behavior of your reptiles (such as sudden and persistent restlessness) and interpreting this behavior to assist you in the management of your collection.

*Direct all comments to RAP, Division of Reptiles and Amphibians,
National Zoological Park, Washington, D.C. 20009*

A STAR-SPANGLED SALUTE TO KEN KAWATA, GENERAL CURATOR AT THE TULSA ZOO!!
KEN, FORMERLY AN EDITOR OF THE AAZK NEWSLETTER, IS A NATIVE OF JAPAN.
HE RECEIVED HIS UNITED STATES CITIZENSHIP IN CEREMONIES HELD ON MAY 26.



Veterinarians and Keepers.....

.... by Stuart Porter, V.M.D.
Gladys Porter Zoological Park

THE MANUAL RESTRAINT OF RUMINANTS

Often a zoo staff is faced with a situation in which a ruminant needs multiple injections, a wound cleaned daily, or a closer physical examination. There are numerous restraint drugs available but only a few of these are completely reversible. In such a case the manual restraint of the animal may be considered advantageous. Manual restraint can be less stressful than darting with drugs in some excitable species. Our harnessed bushbuck and some of our duikers have done tremendous damage to themselves after being darted that they aren't able to do once grabbed. Often, we'll grab an animal and hand inject the restraint drug which takes effect quickly due to the excited animal increasing its blood circulation. In fact we've felt it necessary to hand grab, for one reason or another, many of the species we care for including young guar, young giraffe, young kudu, yellowback duikers, black duikers, zebra duikers, Speke's gazelles, harnessed bushbuck, addax, fallow deer, blackbuck, and springbok among others. We've had only one mortality which could be attributed to the stress of being grabbed.

We consider all the alternative restraint methods available before making the decision to hand grab an animal, but once the decision has been made we formulate a plan of action. We use a dark, quiet stall which is bedded down well with hay. The catch crew, which is kept to a minimum number, is assembled and each man is told what part of the animal to secure.

It's best to keep the animal in a sternal recumbent position to prevent bloating or regurgitation. If it must be held on its side then the right side is safer than the left. It is imperative that the person holding the head keeps it under control and held above the level of the stomach. If the animal regurgitates that person must tilt the head down and remove the food from the back of the mouth to prevent aspiration of rumen contents into the lungs.

The person working on the animal should have everything he'll need ready and easily accessible. Quickness is essential, so get in and out as fast as possible. The quieter the procedure is performed the less the animal is aroused. Usually once the animal is released it just stands there and shakes its head as if trying to figure out what happened.

Another point that one must be aware of is overheating. A restrained, stressed animal will quickly increase its body temperature, which is particularly important if you are working outside under the hot sun. A source of cold water should be handy in case of severe overheating.

If the animal should extend its legs, stiffen, or begin convulsing, the best thing to do is immediately release it and get everybody out of the stall. Drugs probably won't do any good in this case, but occasionally large doses of steroids are given. Just stand outside the stall and quietly observe the animal. After several minutes it may quiet down and slowly gain control. If it goes into shock it will probably die quickly. Usually in such a case a post mortem examination will show an advanced disease process.

Certainly hand grabbing ruminants is not without risk, but as we all know working with exotic animals often involves risks. There are many options open to the zoo staff when it comes to working on animals and it is necessary to consider the various methods available in each specific case. Hand grabbing ruminants has proven to be a useful and safe method at the Gladys Porter Zoo.



CONSERVATION AWARD GIVEN AT THE SAN DIEGO WILD ANIMAL PARK

Maurice Machris, the man who was instrumental in saving the rare Arabian oryx from extinction, became the 25th recipient of the Zoological Society of San Diego's conservation medal. The award was given at dedication ceremonies for the Arabian Desert, a new habitat for Arabian oryx, at the San Diego Wild Animal Park, on May 6.

Ivor de Kirby, president of the Zoological Society, made the presentation to Machris in front of Zoo trustees and members of the Shikar-Safari Club, a group of hunter-conservationists, following release of an Arabian oryx into the desert environment. The oryx joined a herd of 14 of the animals already acclimated to the new surroundings.

The Zoological Society of San Diego annually awards one or more gold conservation medals to persons whom it desires to acknowledge and honor as leaders in the wildlife preservation field. Recipients are chosen for their lifelong devotion to the cause of wildlife conservation, or for notable contributions to the field. The first gold conservation medals were awarded by the Zoological Society in 1966.

Machris' involvement with the Arabian oryx dates back to 1962, when Operation Oryx was launched by the Fauna Preservation Society of London in cooperation with the Survival Service Commission of the International Union for the Conservation of Nature and Natural Resources to save the species from extinction. When Machris learned that two males and a female Arabian oryx had been captured in Rub-Al-Khali in Saudi Arabia, he persuaded fellow Shikar-Safari Club members to finance transportation of the animals to the United States. The club also paid for construction of the animals' new home at the Phoenix Zoo, which Machris had helped select as the species' new environment.

The World Herd, established in 1963 after donation of a female Arabian oryx by the London Zoo to the herd at Phoenix, also owes its formation to Maurice Machris. The World Herd is composed of the Fauna Preservation Society, the Shikar-Safari Club, the World Wildlife Fund, the Zoological Society of London, the Arizona Zoological Society and the Zoological Society of San Diego. It directs development of three captive herds of Arabian oryx: at the Phoenix Zoo, at the San Diego Wild Animal Park and at the Gladys Porter Zoo in Brownsville, Texas.

The breeding herd of Arabian oryx was established at the Wild Animal Park in 1972, when Machris arranged for four male and two female Arabian oryx to be transferred here from the Phoenix Zoo. Since then, 17 oryx have been born here, four more pairs were transferred here from Phoenix, and three oryx have died, bringing the Wild Animal Park's herd to 28.

MUSK OXEN CAPTURED FOR ZOO

BY
Kit Lewis
Washington Park Zoo
Portland, OR

The Washington Park Zoo in Portland, Oregon, is proud to announce three new residents. On April 5th, one male and two female musk oxen took their places in the Zoo's paddocks area -- fresh from the frozen tundra on Nunivak Island, off the coast of western Alaska.

The history of the musk ox is a unique one. A prehistoric leftover, all traces of the animal disappeared from Nunivak during the Ice Age. In 1930 31 musk oxen were transplanted to Nunivak from Greenland, in an effort to re-establish the island's herd and to increase the species' total world population.

The oxen have been free-ranging and protected on the island (a National Wildlife Refuge) since their arrival. Officials estimate that the maximum capacity for musk oxen on Nunivak is 500 animals. This year's census revealed 650 on the island. Thus the herd had to be culled.

In late May, the Alaska Fish & Wildlife Service began issuing a maximum of 35 musk oxen hunting tags \$1000 each. The Washington Park Zoo bought three.

The Zoo's capture expedition consisted of Wes Peterson, Animal Keeper Foreman and Secretary/Treasurer of AAZK's Portland Chapter, and several Eskimo aides. It coincided with another expedition: Alaska Fish and Wildlife was capturing 34 oxen for a transplant to Cape Thompson (550 miles north of Nunivak Island). It became a mutual effort as the two parties merged for the hunt.

With snowmobiles and sleds loaded with provisions, the men set out from Mekoryuk, the island's only village (population 200). Temperatures ranged from +20°F to -40°F. They headed straight south to Ingrijoak, a distance of 54 miles. The musk oxen were known to be browsing there on their meager winter diet of dry rye grass, which was buried under snow on the frozen sand dunes.

The party arrived at Ingrijoak in the early afternoon, made camp, and set out right away for the actual hunt. That day they captured six oxen: three for the Cape Thompson transplant and three for the Zoo. Peterson wanted young animals, and he got them: one two-year old male and two one-year old females. Capturing was accomplished by singling out an animal from the herd with snowmobiles. The smaller oxen were then bulldogged, and the larger ones were netted. In either case, it took about 5 men to hold the animal down and hog-tie it.

The oxen were then tied to the sleds on their sides (with padding under the head to protect the horns and the eyes) and were taken back to camp. The men dug a four-foot-deep trench for each animal and stood the haggled oxen in them for the night. Each animal was given a little hay.

After a "comfortable" night in an ice cave, Peterson helped load up the animals for the trip back to Mekoryuk. On the way back, another musk ox was captured, bringing the two-day haul to seven animals.

In Mekoryuk, the oxen were untied and placed in pens along with the other 30 animals that had been caught prior to Peterson's arrival. Within

three days the pens were empty. Planes came for the transplant to Cape Thompson (34 oxen) and for the Zoo's three animals.

In cooperation with Western Airlines, Peterson flew back to Portland with the oxen. All arrived in good condition, regardless of the relatively warm temperature (70°F) in the cargo hold.

The musk oxen are as yet being held in quarantine in an area just behind their eventual exhibit. Peterson chose appropriate names for the animals: The male is "Oomingmak" (Eskimo for "Musk Ox"), and the females are "Mekoryuk" (the only village on Nunivak Island), and "Ingrijoak" (literally translates to "little sand dune").

Concern for the Arctic animals' comfort during the summer months promoted the construction of a sturdy sun shelter and a wade-in pool inside their half-acre enclosure. Most concern is unnecessary, however, as Arctic summers quite often are as warm as those in the Pacific Northwest. During this warm weather, musk oxen compensate by shedding their heavy, insulating underwool (called "qiviut").

The Washington Park Zoo is one of the few zoos in the world to exhibit musk oxen. And the lucky capture of such young animals should aid greatly in an eventual breeding program.

HERP EXHIBIT AT DICKERSON PARK ZOO... ..by Mike Crocker, Dickerson Park Zoo, Springfield, Mo.

Around the first of the year, the reptile and amphibian exhibit at Dickerson Park Zoo was closed to undergo remodeling.

The old exhibit was completely disassembled and construction began on the new facility. *Reptiles: Fear and Fascination* is designed totally toward an educational concept. Every animal on display will represent a particular aspect about the life of reptiles and amphibians, which will be explained and demonstrated by graphics. Such things as locomotion, food-getting, metamorphosis, fact and fallacy and defense mechanisms will be shown. Even the section devoted to local venomous snakes will graphically demonstrate such things as venom mechanisms and structural characteristics of the pit vipers.

A few herptiles which are rare, endangered or of which little is known will be selected for special breeding or study projects. They will be housed in separate chambers off exhibit in order to better regulate their environment and minimize disturbance. Two areas will be set aside for use as isolation for sick animals and new arrivals.

At the time of this writing, construction is still in progress and hopefully the new exhibit will be ready to open sometime in late May or early June.

Ed. Note: Mike doesn't indicate it in his article, but he has played a major role in the conception, designing and construction of the new facility.

INTERNATIONAL TREATY ON ENDANGERED SPECIES IN EFFECT

As of Monday, May 23, 1977, permits or other documents will be required by the United States for the international shipments of wild plants and animals protected by the Endangered Species Treaty.

Presently, 35 countries are bound by the Convention on International Trade in Endangered Species of Wild Fauna and Flora which was negotiated by 80 nations in 1973. Major businesses which may be affected by the permit requirements include furriers, jewelers, wildlife importers, zoos, medical research companies, leather goods manufacturers and horticulturists.

Fish and Wildlife Service special agents at JFK airport in New York...the largest port for wildlife entry in the Nation...anticipate a 25 to 30 percent increase in the number of wildlife shipments refused entry because of improper documentation

INTERNATIONAL COOPERATION IN ENDANGERED SPECIES WORK

The Interior Department's U. S. Fish and Wildlife Service recently dispatched four American scientists to Egypt to begin discussions on the establishment of joint work on wildlife such as the endangered Nile crocodile and dugong.

The Congress has authorized the U.S. Fish and Wildlife Service to use U.S.-owned foreign currencies for joint projects aimed at the conservation of endangered or threatened species. The money will come from Public Law 480 funds, and not from the general operating budget of the Service. It represents foreign aid and exchange credits that the host country has with the U.S. Treasury, and which must be spent in the host country.

While in Egypt, the team will visit areas considered as possible sites for parks and preserves, as well as discuss the opening of marine research projects in the Red Sea.

Lawrence Mason, Deputy Chief of the Service's International Affairs Staff, will be the team leader on this visit. He will be assisted by Dr. Robert Lackey, a habitat specialist; Dr. William Brown, an endangered species specialist; and Kyran D. Thelen, a National Park Service specialist.

Similar meetings are expected to take place with Indian and Pakistani scientists and American scientists as the program develops.

We are deeply indebted to the AAZPA Newsletter for allowing us to reprint this section from their "Positions Available" listings. This will be a monthly service to us, for you...

EDUCATION SPECIALIST... responsibility for development and coordination of all education programs, including activities of a functioning volunteer docent organization. Ability to teach and write on environmental and wildlife subjects, and public speaking skills are essential. Four-year college or university degree with major in education, zoology, biology or related fields and not less than one year's professional experience in educational programs or one year's experience in the care and exhibition of wildlife is required. Salary: \$13,056 per year plus normal fringe benefits. Send complete curriculum vitae to: Clayton Freiheit, Director, Denver Zoological Gardens, City Park, Denver, CO. 80205

BIRD KEEPER... College graduate with B.S. or B.A. in biology, zoology or a related field. Experience in captive husbandry, exhibition and breeding of exotic birds. Opportunity to expand and improve a small bird collection. No travel funds or moving expenses available. Salary \$4.98/hour with complete benefit package. Equal Opportunity Employer. Contact: Personnel Department, Metropolitan Service District, 1220 S.W. Morrison, Room 300, Portland, OR. 97205.

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All memberships include subscriptions to Animal Keepers' Forum and to The Keeper, the Journal of the American Association of Zoo Keepers...

All new members receive an AAZK shoulder patch and a membership card good for free admission to many zoos and aquariums in the U.S. and Canada. Memberships are pro-rated semi-annually, except for Student memberships. Extra patches are available from AAZK Headquarters, for \$1.00 each.

Send name and address and a check or money order to:

AAZK Headquarters,
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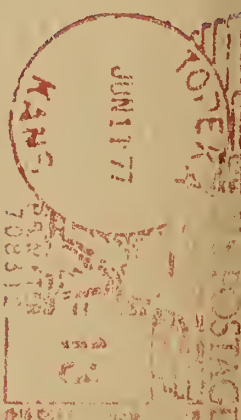
AMERICAN ASSOCIATION OF ZOO KEEPERS

NATIONAL HEADQUARTERS

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FIRST CLASS



Animal Keepers' Forum



Dedicated to Professional Animal Care

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COVER DRAWING ADAPTATION OF ORIGINAL ARTWORK BY PERRY LABELLE

Deadline for each edition of AKF is the 20th of the preceding month

SCOOPS and SCUTTLEBUTT

CAESAREAN ON GORILLA PERFORMED AT LOS ANGELES

The first gorilla caesarean was performed at the Los Angeles Zoo on June 1, 1977. "Ellie" a thirteen-year-old lowland gorilla has killed or mutilated her first three infants and since the gorilla is an endangered species, it was decided to take her next baby by caesarean.

Because of the anatomical similarities between humans and gorillas, it was decided that doctors specializing in human problem-pregnancies would be asked to perform the surgery. A team of doctors and nurses from Martin Luther King Hospital in Los Angeles volunteered.

Through the cooperative efforts of the medical community and the zoo staff, a 5 lb. 2 oz. male gorilla was delivered with no particular complications. The infant is being hand-reared in the children's zoo nursery and both he and his mother are doing fine.

BALD EAGLE RELEASED *by Craig Dinsmore*
Santa Fe Teaching Zoo

The Santa Fe Teaching Zoo recently released a Bald Eagle (*Haliaeetus Leucocephalus*) along the gulf coast of Florida, culminating a three month rehabilitation program for the injured raptor. The eagle, a juvenile female, had been found with a badly broken right wing resulting from a gunshot wound, and the local office of the U.S. Fish and Wildlife Service was called in. A federal agent took the eagle to a local veterinarian for treatment. The surgical procedure included injection of a plastic polymer substance to provide support for the affected area, which eliminated the need for any external casting, splinting, or bracing. Subsequently, the U.S.F.W.S. agent gave our zoo temporary custody of the eagle for the purpose of rehabilitation and release, and General Curator Debra Foster was placed in charge of the rehabilitation program.

In the weeks that followed, the eagle was first housed in a mew (raptor holding enclosure) and then later moved to an open air enclosure where she was "jessed out". (See April AKF). As she grew stronger, we began exercising her on a creance (training leash) which was about thirty feet long and allowed short flights while at the same time preventing escape and/or accidental injury. Finally, she was considered strong enough for release, and arrangements were made with the U.S.F.W.S. agent to release her in an area very near where she was found, and known to be inhabited by Bald Eagles. The eagle was banded and released, and after a few minutes of reconnoitering from an old tree stump she attempted to fly off. We nervously watched her first laborious seconds of flight, as we wondered whether she was ready for freedom. However, she quickly gained altitude and her flight appeared fairly strong, as we had hoped. We are now confident that she will survive in the wild, and hopefully rear her own young in the future.

This was our first effort at rehabilitating an eagle, and we learned a great deal from it. Thanks to the hard work of Debra Foster and others, the U.S.F.W.S. agent will now consider our zoo for rehabilitation of any injured eagle found in the north Florida area.

BIRTHS HATCHINGS

MOUNTAIN TAPIR *Tapirus pinchaque*
BORN AT THE LOS ANGELES ZOO

The first captive bred mountain tapir was born at the Los Angeles Zoo on June 4, 1977. The infant, a female, weighed 15 lbs. at birth and is being cared for by her mother. The father has been temporarily separated from the mother and baby.

The infant has the typical striped "watermelon" pattern seen in all young tapirs, but differs in having considerably more white hair and a longer, thicker coat than seen in other species of young tapir.

A previous pregnancy for this female ended in a stillbirth in 1976.

TWO-TOED SLOTH- NATIONAL ZOO
WASHINGTON, D.C.

A two-toed sloth was born in Research on June 21. The mating was observed and the surprising thing is that the gestation period was over 300 days.

PERE DAVID DEER THRIVE AT BRONX
ZOO

Pere David deer -- extinct in nature since perhaps as early as 1000 B.C. -- are thriving at the Bronx Zoo where the herd of 22 increased to 29 due to births this spring.

ASIAN ELEPHANT BIRTH - CHESTER
ZOO, GREAT BRITAIN

Life Member, Frank Meakins of Great Britain sent word of the first elephant birth there, an Asian male, in early May. The BBC is having a contest to name him.

A HAND SHAKE AND A KISS GOES OUT TO GREET YET ANOTHER ADDITION TO THE AAZK FAMILY OF CHAPTERS. FOR INFORMATION ON CREATING AN AAZK CHAPTER AT YOUR ZOO, AQUARIUM, OR PARK, CONTACT: DENNIS GRIMM, CHAPTER COORDINATOR, BROOKFIELD ZOO, BROOKFIELD, ILLINOIS... 60513.

An AAZK chapter has been formed in the Kansas City area. They've elected Don Rasmussen as the president, Wayne Theison is the vice-president, and Denise Rohwer is their secretary/treasurer.

The chapter's address is:

chapter

Kansas City AAZK Chapter
Kansas City Zoo
Swope Park
Kansas City, Missouri 64132

They have ten members now, but are growing at a bounding rate. A lecture series is planned. These keepers intend to be a strong, active local.

news

HADDOCK AND HOSPITALITY

by
Tom Goldsberry
Washington Park Zoo
Portland, Oregon

Just as it is impossible to thoroughly visit any major zoo in only one day -- a la Batten -- it is equally impossible to write an in-depth report on a major zoo in just two articles.

Last month I mentioned the Giant Pandas of the Regent's Park Zoo, London, in relation to the rest of the collection. In trying to appreciate a zoo composed of more than 5,000 specimens of 1450 species, including many uncommon species of mammals, birds, reptiles, amphibians, fishes, and insects, the question is not, "*What do I want to see?*" but "*What can I see?*" With this point in mind I decided to spend the balance of my afternoon at Regent's Park in the Clore Pavilion for Small Mammals.

Opened in 1962, the complex contains 110 cages and three outside enclosures, accommodating over 200 burrowing, jumping, running, and climbing animals. The "Moonlight World" in the basement of the Pavilion houses fruit bats, fennec foxes, echidnas, and other nocturnal species. Many exhibits in "Moonlight World" are glass-fronted displays that allow public viewing of burrowing animals in their normal daily routine.

In charge of the Clore Pavilion is Lead Keeper Ron Willis, a primate keeper for sixteen years before transferring to his present position. Slim, and with the dexterity of the spider monkeys he used to work with, Ron spends much of his workday walking sideways, dodging heating ducts, as he makes his rounds. Patiently he explained to me the behind-the-scenes routine as we walked through the labyrinthine network beneath the ground. Occasionally we would enter an exhibit and discuss the status of the present clawed-bird generation; or, he would explain the three-stage lighting system that allows an animal, not only a night and day sequence, but a twilight and dawn interval as well.

For the better of the next three hours we observed 1½" Pygmy Mice and African Spiny Mice, Fire-Footed Squirrels, a friendly colony of Ruffed Lemurs, and the more familiar North American prairie "dogs". Each animal obviously vigorous, healthy and well attended to.

Most of the Monday crowd had gone when I surfaced once again. My previous host, Doug Ellis, loaded my wife and I down with souvenirs and remembrances of the zoo. After we had taken leave of Doug it had begun to rain so we decided to eat dinner in the zoo cafeteria. The line was long and noisy; compounded by many foreign visitors hastily trying to convert the price of their meal into their native rials, kroner or rupees. The serving girl, by now tired from the long day behind the counter, glanced periodically at the clock, no doubt waiting for the final countdown until quitting time. Nevertheless, she broke into a big smile and laughed upon hearing our American accent, and our request for haddock. When she politely pointed out the nearest vacant table, she replied, "*You bet, guv'nor we 'ave 'eaps of 'addock!*" Yes, I thought, and 'eaps of 'ospitality too!

This is the third installment of a six-part series.

Next month: The Jersey Wildlife Preservation Trust.

IF AT FIRST YOU DON'T SUCCEED . . . by Sally Smith, Roeding Park Zoo

The first week of February began the most trying ordeal of young Geoffrey's life. As a three year old people-oriented Orang Utan, it's not easy to face up to the fact that the day has arrived to become an Orang Utan's Orang Utan. Lately, Geoffrey had exhibited more independence, and he had also become quite lonely in the nursery. It was a joint decision between Dr. Chaffee, Linda Neidhamer, Sally Smith and Bruce Rodriguez to begin the slow process of introducing Geoffrey to AAZK - 8 years old, and Kifli - 6 1/2 years old. Now was the time to proceed, because to wait much longer as AAZK and Kifli mature could prove dangerous to handlers as well as inhibit Geoffrey's mental development further.

The schedule was arranged so that Geoffrey would spend short periods with AAZK and Kifli four days a week initially, increasing gradually. At first they merely viewed and smelled each other through the chain link in the sleeping quarters. The next step was to carry Geoffrey in with the two older Orangs, and under close supervision of Ape Keeper Joe Capuchin or Bruce Rodriguez, allow the three to get better acquainted while Geoffrey clutched tightly to the nursery attendants. AAZK at first was quite attentive, sitting close, touching and sniffing, and occasionally tugging and slapping. As the visits increased she became rather uninterested. Kifli appeared to be more interested in all the human attention he was suddenly receiving. Geoff did his best to ignore them and it became a habit for him to answer the call of nature in strategic places. When we reached the point that we began removing Geoffrey from ourselves, (this was no easy task -- it took two people to accomplish this feat), he reacted with a mixture of fear and rage. He literally chased us around the grotto, though we did our best to dodge him.

At this point Kifli took extreme interest in this screaming, whining hairy little creature and intervened every time Geoff approached a human. During this period of chase and exploration, Geoffrey mastered climbing out of the steep moat after scraping up his knuckles a few times. AAZK was actually observed to separate the two when Kifli got too rough in his attentions.

We were now into the fourth week of introduction. As Geoffrey got more accustomed to his new home, we began leaving him in the grotto alone with the other two Orangs, lengthening to six hour visits. Around the second week of March, Kifli stopped pestering Geoff, allowing Geoff time to rest. He was ready for the next step. For one week he was taken to the grotto early in the morning to eat his breakfast with AAZK and Kifli. It was the keeper's duty to make sure Geoff was getting his share, and he was observed eating. At this point he appeared to be adjusting well, acting more contented. March 22, it was decided he would remain in the grotto overnight. This last step seemed to go without a hitch until AAZK came into estrus later in the week. She then began to harrass Geoff constantly, neither one of them leaving him alone for a minute. After Geoffrey received a minor bite on the rump, he was returned to the nursery. There he ate ravenously, though he hadn't lost any weight over the week, and he slept almost constantly for two days.

After giving him a week and a half to rest up, a group decision was made to try him once again with AAZK and Kifli. April 6, he was placed back into the grotto for another try. Time will tell if our introduction will be a success. When AAZK comes into estrus monthly, it may be necessary to separate Geoff until he is larger and can better defend himself. We

Continued

want to make every effort to succeed, so that he can remain at our zoo.

(reprinted from Zoo News, May, 1977.)

Sally adds this update to her story

As of May 20, Geoffrey still resides in the Ape Grotto with our two older juveniles. Our two adult Orang Utans, Linda, on loan from San Francisco Zoo, and Sumac are separated from the juveniles and because of limited space are allowed outside on alternating days.

Geoffrey appears to have adjusted completely to the shift with a minimum of trauma and stress. AAZK has been in estrus twice since the article was written and Geoffrey has remained there constantly without problems. He has been weighed and is maintaining his weight of 30 pounds. After weighing, he leaves the arms of the nursery attendants willingly to go to Kifli. It appears we have been successful in introducing a hand-reared Orang to an older group without incident.

AMERICAN ASSOCIATION OF ZOO KEEPERS

NATIONAL HEADQUARTERS

National Zoological Park · Washington, D.C. 20000

FROM THE PRESIDENT:

I'd like to call your attention to the inside front cover. We've added four new regional coordinators and shifted some states around. Hopefully some of our more populated areas (zoologically speaking) will be better represented and the work load will be more evenly distributed. Also note that our zip code is changed from 20009 to 20008.

Reports from the AAZK regional workshops are still not all in but the general opinion was that it was worth our time and effort and that we should continue to utilize these sessions in the future. Some of the sessions were not as productive as we had hoped. This was due either to lack of cooperation from the host zoo or poor planning on our part. The information that we did glean from these sessions, however, should help us to plan next Spring's meetings.

I know many of you are wondering what ever happened to the directory and journal. One reason I hate making projections is because the many factors involved virtually preclude coming up with the right target date. However, I think we can expect the directory to be out this August and the Journal in September. We hope to include in one of those mailings an AAZK decal for your car window. The Overton Park Zoo chapter is handling the decals and will process additional requests for those of you with more than one car. We'll let you know the cost of additional decals later.

Incidentally, we are looking for a chapter that would be interested in producing and distributing AAZK T-shirts. If you think your chapter would like to handle this, write me at headquarters and we'll set something up.....

Great Ape Pandemonium

BABY ORANGUTAN RECOVERS FROM SURGERY AT PHILADELPHIA ZOO

Chickie, the rare female orangutan that was born in the Zoo's Mammal House on Tuesday, May 24, was released from the Veterinary Hospital of the University of Pennsylvania following recovery from two operations to correct a congenital defect in the stomach.

The first operation was performed on Thursday, May 26. The surgical team removed the persistent antral membrane and the narrowing of the pylorus that caused the blockage.

Serious swelling developed at the corrected area, necessitating a second operation on Thursday, June 2, to by-pass the narrowed section of the intestine. The operation involved joining the jejunum (upper intestine) to the stomach thus allowing it to empty in a near normal manner.

SHE WILL BE MISSEDby Helen Bathe

On June 15, 1949, Charles Cordier, well known animal collector, captured a one year old female mountain gorilla in Central Africa.

Prior to her ocean voyage, food indigenous to the area where Sumaili was captured was collected, but this food ran out half way across the Atlantic and the small gorilla had to eat what the ship's crew ate. It was worrisome at the time, but to the people familiar with Sumaili's "chow hound" abilities at the Oklahoma City Zoo, it's not surprising the change of diet caused very few problems.

Sumaili was obtained in 1972 from the Bronx Zoo, New York, to join M'Kubwa and Josephine. M'Kubwa has been at the Oklahoma City Zoo since he was a very young gorilla. Josephine is on an extended breeding loan from the Tel Aviv Zoo in Israel.

Sumaili's picture is in the Illustrated Encyclopedia of the Animal Kingdom. She is mentioned in several books; the most recent is Dr. Geoffrey H. Bourne's book, the Gentle Giants, pages 114-116.

She lived 29 years. She was the oldest female gorilla in captivity. This is an achievement which would have been impossible 40 or 50 years ago.

On March 16, 1977, Sumaili closed her eyes forever. The autopsy revealed that she died of a heart attack attributed to hardening of the arteries.

How does one pay tribute to a mountain gorilla so rare and irreplaceable?

She will be missed.

GREAT APE PANDEMONIUM will be a regular feature coordinated by Fred Dittmar, of the Oklahoma City Zoo. Send comments, ideas, articles to Fred at: 511 N.W. 29th., #204, Oklahoma City, OK. 73103.

Veterinarians and Keepers.....

by Kit Lewis,
Washington Park Zoo
Portland, OR.

FETAL AGING

The Washington Park Zoo is one of only a few zoos to utilize the electrocardiogram for determining fetal ages in pregnant animals. And, this zoo is the only one to have excellently modified equipment specifically designed for elephants. The purpose of the EKG on pregnant animals is for accurate prediction of the time of birth.

The zoo veterinarian, Dr. Michael Schmidt, found a pre-used EKG machine and a few records indicating that the machine had been used before on a pregnant elephant cow. Records show that with this machine, fetal heartbeats were apparent only one month prior to birth. He determined from this that the machine would have to be altered in some way in order to obtain fetal heartbeat tracings earlier in pregnancy.

After much searching, Schmidt located Herb Chamberlin, top-notch electrician. Chamberlin modified an EKG machine, designing a series of filters and amplifiers, for specific use on pregnant elephant cows.

The modified machine is being used for the first time on Metu, one of Washington Park Zoo's eight Asian elephant cows, who is almost assuredly pregnant. Metu and her fetus will provide the EKG pattern with which other subsequent EKG tracings will be compared.

A sample of an EKG strip is shown here on this page. The large spike is the cow's QRS Complex (the biggest ventricular action of the heart muscle.) The tiny waves in between the spikes are muscular movement and other body-produced electrical impulses. As of yet, no greatly apparent fetal heartbeat has been seen. Schmidt does say, however, that the fetal heartbeat could easily be one of those tiny waves, but is still too small to be obvious and recognizable.

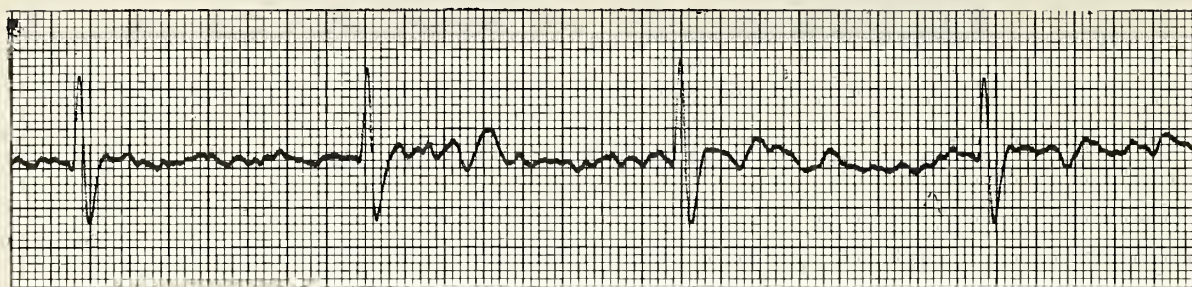
The procedure is relatively simple: there are three electrodes, terminating wires leading to the machine. The electrodes are attached to the upper joints on the legs of the cow; one on each foreleg, and one on the left rear leg. This forms a triangle surrounding the heart and the fetus. The electrodes are 20-gauge needles which are inserted in under the skin, "not due to the elephant's thick hide, but because they make a better contact with a conscious animal," Schmidt says.

The electrodes receive electrical impulses from the body. This stimulation is recorded on paper (see example). With Chamberlin's special modifications, heart muscle electrical impulses of both mother and fetus are isolated and amplified.

"Metu is not our most handle-able elephant," Schmidt says, "but she tolerates this very well." Regardless of the fact that keepers are not her favorite animals, Metu obeys their commands and remains fairly calm during the 15-minute ordeal. A pile of carrots for her to munch on also helps.

"This is not a painful or stressful situation for the animal, it's just a change in routine; and that's always upsetting", Schmidt says. Metu is 8 to 10 months pregnant, and she has had 9 EKG's; one each month.

The EKG's will continue until birth, providing Schmidt with a backlog of tracings, with which to compare future tracings on other pregnant cows.



ORYX IN SPRING
by
Mark Jeffers
Kings Dominion
Lion Country Safari

In March of this year we saw the birth of our first young in the antelope section of our park. Three Scimitar Horned Oryx (*Oryx dammah*) each gave birth in the space of a week (March 6-14), to healthy babies. The last female was found in the morning in the early stages of labor. The events that followed were photographed and documented.

The behavior of the herd in response to the female's condition at the time was most interesting. The two females that had given birth were being good mothers and tending to their calves. While the herd proper consisting of the remaining females, the alpha male, and the eldest male stood eating their morning hay. As the stages of labor progressed, the first female to give birth went over to investigate the female. After satisfying her curiosity, she moved off a bit to continue her vigil over her own calf. With the appearance of the feet, the alpha male and the beta male caught wind of the proceedings and came to investigate. They induced the female to stand for them several times. The alpha male tired of competing for sniffing rights and sent the beta male off to some preordained perimeter and resumed his inquiry. The laboring female became annoyed over his repeated approaches and engaged him with her horns for short threats.


The alpha male eventually realized he was viewing a birth and went back to checking the beta male and filling his stomach. In a matter of an hour after the feet appeared, the calf made his entrance into the world. The mother decided to stand for the final stage of delivery. As soon as the baby had touched the ground she was licking it and encouraging its struggle to move and breathe. After disposing of her afterbirth, she proceeded to clean her calf.

The whole process was a refreshing sight after a harsh winter. Spring had arrived. Within half an hour after the calf had left its mother, he found his legs. It took several attempts and mother's help to finally reach a stand.

As the weeks have progressed the three calves discovered one another. Their mothers formed a nursery type arrangement amongst the herd where one or all the mothers would watch over them. In the late afternoons as the herd moves about to different hay piles, the calves race in and out amongst their elders and circle this main body. Mother is always taking care to know who and what is about so the calves can be brought back to the safety of the adults.

As horns and teeth begin their growth, the transformation to adult food is necessary as mother becomes wary of the sharp things the babies are producing. Mother still offers an occasional nursing but not as often. Adult food is becoming rather tasty anyway.

Now, two months later, the calves have been weaned. Two of the former mothers are beginning their estrus cycles again. The alpha male that sired these females has lost his standing and is still in the process of being replaced by one of the members of the bachelor herd. There are two who are vying for this right. However, much of their time is being spent with the two females at present. The former alpha male is an exiled distant observer of both the male and female herd of his species. Having lost his left horn in a battle with the dominant Gnu in the section, he can no longer adequately defend his right to keep the females. As this right is constantly challenged he soon lost his competitive edge with the members of the bachelor herd and was forced to leave.



WE FEED'EM AT EATM.....from Kelly Otis, EATM Compound, Moorpark, CA.

Because of the rapid development of recreational animal parks, ecologically oriented zoos, and animal entertainment centers, there has been a corresponding need for trained and experienced personnel to work with animals. In an attempt to partially meet this need, a major has been developed at Moorpark College just north of Los Angeles and is now graduating its 5th most experienced class. The Exotic Animal Training and Management program (EATM) is designed for all students interested in all aspects in the animal field. Each year 40 students from around the world are selected from over 400 applicants of which 80 are selected for personal interviews.

The program provided its students with a "hands-on" type of experience with wild and exotic animals in addition to a stiff academic curriculum. Some courses include: Theatrical Aspects, Planning-Design, and Administration of Animal Parks along with Biology, Behavior, Nutrition and Training of Exotic Animals, including Operant Conditioning. The most valuable requirement in the 2 year program is field experience which is on the job training. This involves working with exotic animal veterinarians, oceanariums, circus animal parks, and professional animal trainers for movies and television.

The Exotic Animal Compound is ranked the 10th largest in California with over 200 animals numbering 70 species. The compound is maintained entirely by the students 24 hours a day, along with responsibility for building and fund raising for feed and veterinarian bills.

We hope that as you look at your employment picture you will keep in mind that we have some very dedicated and well-trained animal people. If you would like more information concerning the program, please feel free to contact us.

EATM Compound
7075 Campus Rd.
Moorpark, CA 93021
(805) 529-2321, Ext. 256

1977--A WHOOPING CRANE BONANZA

Whooping crane production in 1977 has exceeded all expectations, and the outlook for this endangered bird, symbol of America's wildlife conservation effort, has never been brighter, Keith M. Schreiner, Associate Director of the Interior Department's U.S. Fish and Wildlife Service.

This year's breeding season has ended, and a survey taken by Fish and Wildlife officials reveals not only a record number of whoopers, but possibilities of even greater success next year. In all there may be 126 whooping cranes in existence in the wild and in captivity. Twenty-nine of these were hatched this spring. The figures shape up like this: The major 69-wild flock that summers and breeds in Canada produced 34 eggs, two of which were eaten by unknown predators. Sixteen of the remaining eggs were flown to Grays Lake National Wildlife Refuge in Idaho and placed in nests of the greater sandhill cranes. So far 12 chicks are known to have survived from the sixteen. Of the whoopers reared by sandhills in this way over the last 2 years, five are still living.

Meanwhile, back at the whooping crane traditional nesting grounds in Canada's Wood Buffalo National Park, 15 of the 16 eggs left behind hatched, and 11 chicks have survived.

One of the six surviving whooping crane transplants from 1976 has been found dead alongside a highway near Lyman, Wyoming. The year-old bird had a 3-inch gash on the upper inside of its left leg.

RED TAPE CUT FOR BREEDERS OF ENDANGERED SPECIES

Zoos, game bird breeders, circuses, and other persons who breed and raise endangered species in captivity can now buy and sell certain animals in foreign and interstate commerce under a new regulation issued by the Interior's U.S. Fish and Wildlife Service.

The regulations, will relax restrictions and permit procedures for qualified breeders of endangered species which are designated as captive, self-sustaining populations (CSSP's). The rulemaking determines that 11 endangered species of large cats, birds, primates exist in this country as stable, separate populations from the wild, capable of perpetuating themselves in captivity. These populations, which are now classified as threatened, include the tiger, leopard, jaguar ring-tailed lemurs, black lemur, brown eared pheasant, Edward's pheasant, Humes pheasant (bar-tailed pheasant), Mikad pheasant, Palawan peacock pheasant, Swinhoe pheasant.

The service will consider moving other captive endangered species to CSSP status when sufficient evidence warrants the action.

EASTERN TIMBER WOLF PROPOSED FOR THREATENED LIST IN MINNESOTA

The eastern timber wolf of Minnesota, a subspecies of the gray wolf, is being proposed for reclassification from the endangered species category to that of a threatened species. This move reflects the increase in numbers, extension of the animal's range in northern Minnesota, and the fact that it is no longer in danger of extinction in that part of its range.

MARINE OTTER INCLUDED

The U.S. Fish and Wildlife Service proposes to add the marine otter *Lutra felina* of Chile and Peru to the list of species designated as marine mammals for purposes of the Marine Mammal Protection Act of 1972. Species which are listed under the Act are subject to the restrictions and protective provisions of the Act.

Two subspecies of the marine otter are recognized: the first, from southern Chile, is slightly darker brown on the surface when compared to the one from northern Chile and Peru.

This species inhabits the coastal waters along the west coast of South America from central Peru south to Cape Horn, Chile. Nothing is known about its seasonal movements. It occurs mainly in the coastal region, but it is also known to ascend rivers to at least 650 meters above sea level.

This month's *Reptile Amphibian Potpourri* and *Struggle to Survive* combine into one column. We encourage any member to write to the U.S. Fish and Wildlife Service regarding any item found in this section...

Reptile Amphibian Potpourri

STATUS OF 11 TURTLE SPECIES UNDER REVIEW

The U.S. Fish and Wildlife Service announced that it is undertaking a review of the status of 11 species of turtles to determine whether they should be proposed for inclusion on the U.S. List of Endangered and Threatened Wildlife and Plants.

Persons with information that may assist in determining whether any or all of the following species of turtles be listed as endangered or threatened are invited to write the Director, Fish and Wildlife Service, U.S. Department of the Interior, Washington, D.C. 20240. All comments should be in by August 2, 1977. Species included in this review are: The Alabama red-bellied turtle, Cagle's map turtle, the flattened musk turtle, the key mud turtle, the Illinois mud turtle, the red-bellied turtle, the ringed sawback, the Sabine map turtle, the Suwanee cooter, the Texas map turtle and the yellow-blotched turtle.

ST. CROIX GROUND LIZARD LISTED

The St. Croix ground lizard (*Ameiva polops*) of the U.S. Virgin Islands has been determined to be an endangered species.

Only about 300 of the 7-inch reptiles remain on a total of 15 acres on two tiny islands off the coast of St. Croix, U.S. Virgin Islands.

MONA ISLAND REPTILES PROPOSED AS THREATENED

Three species of reptiles, known to occur only on tiny Mona Island, Commonwealth of Puerto Rico, have been proposed for listing as threatened species.

Development could destroy key areas, such as sandy beaches, which are required for nesting and feeding of the native reptiles, particularly the Mona ground iguana. In addition, the large iguana and Mona boa could become subject to harassment because of their size; most of the large Caribbean iguanas, and boas have been extensively hunted throughout the Caribbean Islands and this has contributed to their serious decline.

In addition to the three reptiles recently proposed, two other endangered animals, the hawksbill sea turtle and the yellow-shouldered blackbird, occur on Mona or use its beaches extensively. By proposing the Mona boa, the Mona ground iguana, and the Mona blind snake as "threatened", the Service seeks to recognize the unique character and fragile nature of the fauna of Mona.

A TEXAS TOAD'S LAST STAND

Critical habitat has been proposed for the Houston toad, a small and endangered brown frog inhabiting central Texas.

The Houston toad is among the rarest and most critically endangered amphibians in the United States and has been officially listed as endangered since 1970.

ATLANTIC SALT MARSH SNAKE PROPOSED AS THREATENED

The Atlantic salt marsh snake, a slender, striped, water snake of the Atlantic coast of Florida, has been proposed for listing as threatened on the U.S. List of Endangered and Threatened Wildlife.

The Atlantic salt marsh snake inhabits brackish and salt water environments along the coast of three counties in central Florida. It usually is found associated with fiddler crab burrows, in which it lives and retreats when confronted by danger. Unlike most water and salt marsh snakes, this species is docile and will not attempt to bite. Fewer than 35 specimens are known to science even though this snake was first described in 1895.



A word to the wise: If a new Texas law goes into effect, then most of the herps that everybody likes to collect in Trans-Pecos and throughout the rest of Texas will be protected as of July, 1977. A permit will be required thereafter. Shouldn't have too much trouble getting a permit if you're from a zoo. For information, write: Floyd E. Potter, Jr.

Texas Parks and Wildlife Dept.
4200 Smith School Road
Austin, TX 78744



o p p o r t u n i t y k n o c k s

We are deeply indebted to the AAZPA Newsletter for allowing us to reprint this section from their "Positions Available" listings. This will be a monthly service to us, for you...

SUPERINTENDENT OF MAMMALS... involves supervision and instruction of keepers, husbandry management and arrangement for animal transactions. Must have practical working knowledge of a wide range of mammalian species and a demonstrated ability to supervise and coordinate in a zoo setting. Further information and application forms from: Ms. Jean Coontz, Personnel Manager, Brookfield Zoo, Brookfield, IL 60513

ANIMAL CARE SUPERVISOR ...Responsible for supervising personnel engaged in animal care, grounds and maintenance work. Requirements: knowledge of exotic animal husbandry and diseases; be familiar with zoo literature; a high school graduate; at least 3 years' experience in zoo work. Send applications to: Gordon Henley, Director, Ellen Trout Zoo, P.O. Drawer 190, Lufkin, TX 75901 by July 15, 1977

ASSOCIATE OR CURATOR OF MAMMALS...requires bachelors degree in animal sciences; zoo experience desired. Salary negotiable. Send resume to: R. Reuther, Philadelphia Zoo, 34th & Girard Avenue, Philadelphia, PA 19104

MEMBERSHIP INFORMATION

Affiliate (keepers) and Associate.....	\$10.00 annually
Foreign.....	\$15.00 annually
Student.....	\$ 5.00 annually
Contributing (organizations).....	\$25.00 annually

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Send name and address and a check or money order to:

AAZK Headquarters,
National Zoological Park,
Washington, D.C. 20008

Make checks payable to American Association of Zoo Keepers

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Animal Keepers' Forum

SPECIAL ELECTION ISSUE!!

see page 100



Dedicated to Professional Animal Care

VOLUME IV

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Animal Keepers' Forum

635 Gage Blvd.,
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Edited by Ron Kaufman, Topeka Zoological Park
Associate Editor: Mike Coker, Topeka Zoological Park
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Washington, D.C. 20008
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Los Angeles

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COVER DRAWING ADAPTATION OF ORIGINAL ARTWORK BY PERRY LABELLE

Deadline for each edition of AKF is the 20th of the preceding month

SCOOPS and SCUTTLEBUTT

DEATH STRIKES AT AUDUBON PARK ZOO

We regret to announce that Mark Gordon, 26, Curator of Mammals at the Audubon Park Zoo in New Orleans was killed by an Asian elephant on July 6. Gordon, formerly of Omaha, had been employed by the zoo for only a month when the tragedy occurred.

The mishap occurred when Gordon was in an outside yard with two female sixteen year old Asian elephants. A visitor apparently asked him a question, and when he turned to answer, one of the animals apparently knocked him to the ground. The elephant then did the "head-stand" on Gordon. Another keeper in the yard was unable to reach him in time.

Gordon's family still resides in Omaha, Nebraska. The American Association of Zoo Keepers and the staff of Animal Keepers' Forum wish to extend their sympathy to the family and co-workers of Mr. Gordon. This is a tragedy we will never forget.

INSECT ZOO OPENS*Washington Park Zoo*

The Washington Park Zoo is pleased to announce the opening of the new Insect Zoo on July 7. This is one of the few insect zoos in the United States. The Washington Park Insect Zoo will emphasize insects of the northwest region, most of which were collected in Oregon.

The Insect Zoo was designed by Paul Johnndon, resident entomologist, and Joey Cross, coordinator of education and volunteers at the Washington Park Zoo.

The Insect Zoo will feature insects representing idfferent types of habitats from desert and aquatic environments. Most insects will be live; however, cases of preserved exotic insects from tropic regions of the world will be included to dramatize the different forms, sizes, shapes colors, and adaptations of insects. Insect relatives, such as spiders, scorpions, centipedes, millipedes, tarantulas, horseshoe crabs, and hermit crabs will also be on display.

Some insects to be found in the aquatic exhibit include water beetles, back swimmers, damsel fly nymphs, whirligigs, water skippers, water boatmen (alias boatpersons) and water scorpions.

SILENT SUPPORT FROM *Don Rasmussen, Kansas City Zoo*

In a departure from what we usually relate to in the Animal Keepers Forum, I would like to share some thoughts I've had on the person that really sustains us in a most self-satisfying career. Of course, you realize I'm speaking of all those spouses, friends, and lovers who are bombarded nightly with a vast array of exotic aromas. We, as keepers, accept this "fringe" benefit for love and money but we sometimes forget that our partners in life accept it purely out of love. The husband and wife teams are becoming more and more common in our profession. This is an opportunity where you can double your cents as well as your scents. For the most part our "mates" contribute not only morally but financially as well, so that we may continue with our far from lucrative "hobby." I think we owe these silent supporters a vote of thanks.

BIRTHS HATCHINGS

RARE BIRTH

A yet unnamed California sea lion pup, Born June 3 at the Walter D. Stone Memorial Zoo, can now be viewed making his first attempts at swimming with mom and dad. The 3 week old, 10 pound pup is the first successful birth in New England, and a rare birth occurrence in captivity world-wide.

The Pup was born on land at 7:20 a.m. in the Half Land-Half Water Exhibit Complex. According to Mark Crosbie, the MDC Senior zoo attendant, who's worked with these animals for 5 1/2 years, it's extremely difficult to project a birth date for sea lions because they have "delayed implantation," a process by which the female can hold the undeveloped fetus in suspended animation for several months. The animals also show no apparent signs of weight gain. But pups are normally born in the first or 2nd week in June. Candy was acting very strange for the last few days, admitted Crosbie, who was not surprised by the early morning call from MDC Zoo Director, Richard Naegeli.

BLACKBUCK BIRTH

The Washington Park Zoo is pleased to announce the birth of a male blackbuck on June 26, bringing the zoo's blackbuck population to four: two adults, one male yearling and the new fawn.

Blackbuck, Asian antelope, are native to India. They are blackish brown (male) or yellowish brown (female) with white underparts. The males have spiral horns, They weigh about 90 pounds and stand approximately 32 inches high at the shoulder.

LOS ANGELES ZOO BONGO FAMILY

by

Carole C. Udell
Los Angeles Zoo

Late Monday afternoon on the 20th of June a lovely strong female Bongo calf was born. Our first baby, also a female, was born January 20th of this year. Our Bongo family now consists of two adult females, an adult male and the two calves. We are very pleased to have been so fortunate in breeding these animals. As they gracefully move about the green lawn and wander into their pool, the sunlight intensifying their striking coloration these beautiful animals are truly a delight to behold.

VANCOUVER BREEDS THE BELUGA WHALE

The Vancouver Public Aquarium, in Canada has recorded the successful breeding and subsequent birth of a Beluga whale. The birth took place on 13 July. A healthy male was born headfirst in a 3½ hour delivery. Staff at the facility had been on a 24 hour watch since 2 June and public movement around the pool had been restricted.

As of this writing, the baby is doing well. It is being cared for by the mother. No name has yet been assigned the animal, as a contest has been formed for that purpose.

CONGRATULATIONS TO THE CREW AT THE
VANCOUVER PUBLIC AQUARIUM.....

HADDOCK AND HOSPITALITY

BY

Tom Goldsberry
Washington Park Zoo
Portland, Oregon

....The Jersey Wildlife Preservation Trust....

Long before the first North American keeper has arisen, or just stumbled in, here the workday has already begun. If it's a clear day, as when I visited, the twinkling lights of the French coast, a scant seven miles away, are still visible; if it's foggy, and that's not uncommon in the English Channel, the Les Augres Manor will suddenly loom up in spectral fashion to reveal every ancient stone of its 15th century medieval origin.

The March morning is brisk and sunny, the air so clean it hurts; and contrary to nearby Guernsey, where the land slopes gently northwards, necessitating the use of greenhouses for growing produce, here it slopes southwards, and tomato and other crops are grown naturally, undisturbed by any geological capriciousness.

The cows, each a registered pedigree calmly graze up to the brink of the walled embankments that almost touch the narrow roads we drive on.

This is Jersey, the largest of the Channel Islands, and since 1962, the home of Gerald Durrell's Wildlife Preservation Trust. More than just a "zoo", the Trust is a sanctuary and a court of last resort for many of the world's rarest and most endangered species.

Though blustery, the island is not as inclement as one might believe. Here the powerful Gulf Stream current makes a final flirting gesture at the European continent before making a U-turn and plowing 3,000 miles back to the Western Hemisphere.

The first view of the Trust from the parking lot is one of unpretentiousness. There are no gaudy colors or carousels. Just a sign, a turnstile, and a small gift shop. Once on the grounds the twenty acres of rolling hills and quiet waterfowl ponds, blended with the old style buildings, not only add to, but enhance the beauty of the surrounding Trinity district countryside.

On our arrival, Mr. Jeremy Mallinson, the Trust's genial Zoological Director was eager to make us feel at home and to tell us of the Trust's breeding successes. Even a partial list is impressive. First breeding of species awards for Ursine Colobus monkey, *Colobus polykmos polykmos*; White Bared pheasant, *Crossoptilon crossoptilon*; Congo Peacock, *Afropavo congenis*. Meritorious breeding awards for the Spiny Hedgehog Tenrec, *Setifer setosus*, Pygmy Hedgehog Tenrec, *Echinops telfairi*; Sierra Leone Striped Squirrel, *Funisciurus pyrrhopus leonis*, fourth generation.

Mr Mallinson's own special interest is marmosets and with the opening last year of the second Marmoset Complex there are now twenty-six indoor units and twenty outside planted "aviary type" cages. Topical flora is used where possible for all cages. Successful breeding has already been recorded for the Common Marmoset, *Callithrix jacchus*; Silvery Marmoset, *Callithrix argentata*; Saddle-back Tamarin, *Saguinus oedipus*. During the past three years the percentage of mammal breeding has risen from 38% to 51%, while the percentage of bird species breeding has maintained a steady 27-30% rate.

What makes Jersey tick? What makes Jersey an anathema to all those who

continued

whine and complain about the plight of animals in captivity? One factor of course is funding. The many animal adoption and donation plaques at the zoo from concerned people all over the world is due in part to the immense popularity of author-conservationist Gerald Durrell. This popularity plays not a little part in the success of Jersey.

The Gaherty Herpetological Research and Breeding Complex which was officially opened last year by Princess Anne was the gift of Dr. and Mrs. Gaherty of Montreal. Quentin Bloxam, Curator of Mammals, showed me through the complex. Quentin said the complex had been custom built with the purpose of specializing in the study and breeding of carefully selected species of non-venomous reptiles, particularly the *Epicrates* species of Boa constrictor. The Round Island Skinks, *Leiolioisma telfairi* and the Puerto Rican and Jamaican Boas were outstanding exhibits.

But, zoos don't live by "bread" alone, and, if funding is the grease that keeps Jersey going, then the keepers are certainly the mainsprings that make it run.

More on that next month.

AN IDEAby Robert Honer, Giraffe Keeper, Buffalo Zoological Gardens, Buffalo, NY.

Our breeding female Reticulated Giraffe, Jewel, needed to have her front hoofs trimmed. The usual way to do this job would be to call in an expert hoof trimmer and have Jewel anesthetized or manually restrained before her hoofs could be safely trimmed. A task not without considerable hazard to Jewel.

Well, I thought I would try a different approach. Jewel is a good natured animal and very at ease whenever I'm near her. Because of this I decided to try trimming her hoofs while she was eating from her 12 foot high feed bin in the back of her indoor exhibit. For the first cut I fed Jewel some grain from her feed bin, went inside the exhibit and knelt down near her. With the ugliest looking 3 foot long bone cutting hack saw I began to cut 3 inches of excess off her front foot, being as gentle as possible.

Jewel was a little annoyed with me and would pull back for a minute or two. I did think I was a little crazy, however, by talking gently to her she would return to her eating position.

I made a mistake when I hit the instep of her other foot with the saw. Jewel started to kick out at me and I backed out fast. Again, by waiting and talking to her, I was able to go back in and finish the cut.

Over the next two weeks I made six more cuts. These were made from outside the exhibit through the screen fencing. Much less hazardous. For these cuts I used a smaller bone cutting saw and a coping saw attached to a 3 foot wooden handle.

I consulted with our zoo veterinarian, Dr. Allan Prowten, on all aspects of the trimming. Dr. Prowten advised me and made a chart showing what cuts I should make and in what order.

I feel very good being able to help Jewel in this way without risking any kind of restraint, manual or chemical. Jewel has an improved gait and looks so much better.

ELECTION 77

THIS IS IT, FOLKS!!! THE NOMINATIONS ARE IN, THE NOMINEES ARE IN, AND THE NOMINATORS ARE GOSH KNOWS WHAT...

THE ELECTION THIS YEAR IS TO DECIDE WHO WILL TAKE THE SEATS ON THE AMERICAN ASSOCIATION OF ZOO KEEPERS BOARD OF DIRECTORS THAT ARE UP FOR RE-ELECTION...THOSE OF MIKE DEE AND PAT SASS. The Directors-Elect will begin their terms of office on 1 January, 1978 and will help lead the Association in the years to come. The times ahead are important ones, as the professional zoo keeper takes a place alongside the other persons that manage our captive wildlife resources. Choose your selection carefully and AAZK and you will prosper, choose blindly and no one or nothing will gain. HERE ARE THE RULES...

Short biographical sketches of the candidates (6) follow this introduction. Select two of the individuals and make your mark on the ballot on page 103. DO NOT WRITE YOUR NAME ON THE BALLOT Then, fold the entire center section of this AKF (pages 100 thru 103) and place it in the envelope provided. Place your return address in the upper left hand corner of the envelope and stamp it and post it no later than Midnight, 30 September. ANY ACTIVE MEMBER MAY VOTE... YOUR ANONYMITY WILL BE PRESERVED IN THE COUNTING OF THE BALLOTS.

DENNIS GRIMM

Nomination by Jeff Roberts, Chr. AAZK Awards Committee

"I would like to nominate Dennis Grimm for election to the Board of Directors for the National AAZK organization. Dennis has been an active member of the local chapter for several years, serving in various offices including President and Executive Secretary of the chapter. He has directed several chapter projects, including our ongoing Speakers Bureau.

In addition Dennis is extremely active at the National level serving as Chapter Co-ordinator. In this office he is in regular contact with chapters across the country, giving them advice and information on how to build their local organization. Because of this experience I feel he would be ideally suited to working on the National Board."

Bio. by Grimm

Employed by the Chicago Zoological Society, Brookfield Zoo, since October 1, 1969, as an animal keeper; worked primarily with mammals, especially big cats, bears, and various small mammals, but also with reptiles and some birds. Bachelor of Science degree, majoring in Zoology. Member of AAZK(National and Brookfield Chapter) since about 1970; past Ecology Officer and President of Brookfield Chapter; Coordinator of Chapter Affairs for National AAZK; written several news items for AKF; attended national conventions in 1974 and 1976. Member of AAZPA, NWF, Audobon, IWLA and Wilderness Society.

"I would like to become a member of the Board of Directors of AAZK to solidify my position as Coordinator of Chapter Affairs into the structure of the National AAZK and to be more influential in national AAZK policies."

TOM GOLDSBERRY

Nomination by Mike Keele, Pres., Portland Chapter, AAZK

"The Portland Chapter of the AAZK would like to nominate Tom Goldsberry to the Board of Directors because of his sincere interest in the organization. Tom was instrumental in the formation of our chapter. He has also kept our chapter informed on legislation concerning the zoological field. Tom has also been an outstanding member who we could always count on for involvement in chapter happenings and national AAZK happenings."

Bio. by Goldsberry

Night keeper, Washington Park Zoo., Portland Oregon; eight years keeper, veterinarian technician, and zoo related experience; founding board member New Mexico State Zoological Society. A.A. Animal Science, vet tech certificate. Member AAZK 1974 to present; presently AAZK Northwest Regional Co-ordinator and International Co-ordinator; AKF contributor. Member AAZPA, Audubon Society, Assoc. for Conservation for Southeast Asia.

"As the AAZK moves into its second decade and its membership grows, the concomitant problems increase proportionately. At this critical juncture I feel it's imperative to maintain and enlarge the lines of communication as much as possible. One of the most common complaints I hear as Regional Co-ordinator is "nobody answers my letters." Therefore I feel greater communication should exist between all officers and the general membership; and, as a board member, I will establish that kind of communication.....a minor point perhaps, but an important one."

JEFF ROBERTS

Nomination by Bela Demeter, Pres., AAZK

"Jeff is currently the Awards Committee chairman, and is also heading up the editorial team for this year's Journal. Jeff has been responsible and conscientious in my communications with him. His interest in the organization and his conduct during the board meetings at San Diego lead me to believe that he would make a good director."

Bio. by Roberts

Summer keeper, Brookfield Zoo 1973 and 1974; full-time keeper primate house since Nov. '74; recently promoted to senior keeper. B.S. in Biology, Elmhurst College. Member AAZK local chapter four years, one year ecology officer, second term Pres., involvement in chapter's speaker bureau and editing of the Keeper; awards chairman national; contributor Volume 1 of the Keeper, "A Keeper based program for Monitoring Endoparasites." Member AAZPA, National Wildlife Fed., Audobon, Chicago Field Museum.

"I basically feel that the National organization has a lot to contribute to the profession of zookeeping in terms of disseminating information. Too often an individual zookeepers' knowledge is never passed on, benefiting neither the animals or other zookeepers. I could hope that as a member of the Board I would be able to help keepers across the country get in touch with one another."

PATRICIA SAMMARCO

Nomination by Lawrence Sammarco, Regional Coordinator, AAZK

"I would like to nominate Pat Sammarco for a position on the Board of Directors. She has consistently shown her dedication to the organization and its goals. Her ideas and high ideals will greatly add to the Board if elected. At times when others were down on the organization and ready to give up, Pat refused to throw in the towels and continually spoke up reassuring members that the AAZK would survive and flourish. She is deserving of the position on the Board."

Bio. by Sammarco

Lincoln Park Zoo, 1963 Volunteer Children's Zoo, 1966 part-time Zoo leader (CZ), 1969 full-time Zoo leader (CZ), 1972 Keeper; Keeper in the Farm-in-the-zoo, Reptile House; presently Keeper Class 2, Monkey House. Two years pre-Veterinary medicine, University Illinois; one year AAZPA Management School; put together Seminar for local zoos to discuss the place of "research in Zoos." National AAZK since 1968, putting together the National Directory in partnership with Pat Sass; helped start local chapter 1968, Secretary or Vice-Pres., since its inception; AKF contributor, other publications include survey column called the "Data Pool"; presented paper and slide presentation "My Run, My Way" at San Diego AAZK conference. Member AAZPA.

"I believe whole-heartedly in the AAZK and the need for us as keepers to do whatever we can to improve our profession and our professional skills. I would like to help set up a program of regional activities and multi-zoo activities with the AAZK and help establish a stronger "sisterhood with the AAZPA."

CAROLE UDELL

Nomination by Bela Demeter, Pres., AAZK

"Carole has been regional coordinator for AAZK since we established the network a little over a year ago. Since I have to judge people by their correspondence I am able to give Carole high marks. She not only answers letters promptly but initiates them. This is the type of person I would like to see on the Board. If Carole were to continue her level of activity and interest while on the board, AAZK would be in pretty good hands for the next four years."

Bio by Udell

Animal Keeper, Los Angeles Zoo, two years; five and a half years as a volunteer docent at L.A.Zoo. Studied Art in California and France, professional painter and sculptor; courses at UCLA in Anthropology, Mammalogy, Behavior. Member AAZK two years local and national, secretary local chapter; regional coordinator, national.

"I would like to be a member of the Board so that I might help in any way necessary with the work being done by a fine organization."

PATRICIA SASS

Nomination by Pat Wiard, Sec., Lincoln Park Zoo chapter, AAZK

"I feel that Pat Sass should be re-elected to the AAZK Board of Directors because for the past four years she has represented our zoo very well. She has attended all conferences and Board meetings at her own expense and used her own vacation time. She is a concerned and caring zoo keeper; this is the kind of person I feel should have a say in representing zoo keepers."

Bio. by Sass

Lincoln Park Zoo, 1962 part-time Zoo Leader Children's Zoo, 1965 full time Zoo Leader (CZ), 1972 Keeper (CZ); Keeper Monkey House, Children's Zoo, Nursery, Bird House, Lion House; presently Keeper Great Ape House. Three semesters jr. college. Co-chairman Tri-Zoo Chicago conference. Member AAZK from its start; local chapter offices held, Treasurer, Vice Pres., Pres. (inc. present), one of two responsible for cooking dinners so would have good attendance at meetings, responsible for raffles to raise money; national Awards Committee 1972; AKF contributor, wrote fillers for and co-edited the KEEPER in Brookfield. Member East African Wildlife Society.

"I have been a member of the Board of Directors for four years and I feel that I have contributed to the best of my ability. I have attended conferences at my own expense and time. I have given talks both at conferences and at schools. I never miss a chance to talk up AAZK to people and groups. I have attended a couple of AAZPA conferences; one as a Director to conduct an AAZK meeting, again at my own expense. Pat Sammarco and I are doing the National Directory. The reason I would like to stay on the board is to help AAZK become as important to zoos, as AAZPA is."

THIS IS THE OFFICIAL BALLOT...VOTE FOR TWO INDIVIDUALS...DON'T STUFF BOX

_____ DENNIS GRIMM

_____ PATRICIA SAMMARCO

_____ TOM GOLDSBERRY

_____ CAROLE UDELL

_____ JEFF ROBERTS

_____ PATRICIA SASS

THIS BALLOT MUST BE COMPLETED AND POSTMARKED NO LATER THAN MIDNIGHT, 30 SEPTEMBER, 1977. USE THE OFFICIAL ENVELOPE ENCLOSED WITH THIS EDITION OF ANIMAL KEEPERS' FORUM. DO NOT WRITE YOUR NAME ON THIS BALLOT.....

make your mark



Great Ape Demonium

from: AMERICA'S FIRST ZOO JUN/JUL 77 PHILADELPHIA

Mollie, a 10 year old female chimpanzee gave birth to a 1.35 kg. male infant. Mollie, Nina, another female, and Smoke, the father, are in a group in the Rare Mammal House with the infant. Mollie is the first chimpanzee to give birth at the Philadelphia Zoo since 1928.

MR. CHING GETS A MATE

from Oklahoma City Zoo, July 1977, Frederick M. Dittmar

On 18 July 1977, Mr. Ching, a 19 year old, 300 lb. Bornean Orangutan was introduced with Maggie, a 16 year old female. Maggie weighs 100 lbs.

Mr. Ching and Maggie had two days sight contact with each other during the latter part of the week. This, across a service hall. On Monday the doors between the cages were opened. Maggie showed no fear of Mr. Ching, as she immediately attempted to cross into his cage. At this, Mr. Ching gently halted her by grabbing her leg. He then positioned her and mounted in a ventral position. This, the first of two observed mounts, lasted fifteen minutes, the second five.

Mr. Ching and Maggie were left together that night with only spot checks by the night security. They were given the run of two exhibit cages and a bedroom cage. Mr. Ching mounted Maggie the next morning. He is constantly aware of her location, sitting in the doorways watching her every move.

Mr. Ching has been isolated from contact with other orangutans for the past two and one-half years. He has had sight contact with our other two males and one female oranges.

Maggie has given birth to four infants and Mr. Ching fathered two infants in the past seven years so we have high hopes with this union.

WORKSHOP

The NIH/WHO Collaborating Center for Reference and Research in Simian Viruses is planning a workshop to be held January or February 1978 on Diagnosis of Virus Diseases in Nonhuman Primates. Anyone interested should contact: Dr. S.S. Kalter, Southwest Foundation for Research and Education, PO Box 28147, San Antonio, TX 78284.

WHAT CAN YOU WRITE ABOUT FOR G.A.P.?

Well, have you found an easy way to get apes to transfer? Have you come across a good occupational activity for your charges? Do you have any unusual problems, or solutions? Were you attacked by an ape and can you stop shaking long enough to write about it? Any interesting vet data you can pass along? Anything you and your imagination can come up with, is fine. Send your offerings to: Fred Dittmar, 511 N.W. 29th., #204, Oklahoma City, OK. 73103...

CALL FOR INFORMATION

I am trying to compile information for a paper on "capture and restraint." I would be deeply indebted to the readers of AKF for their help in finding appropriate published material and for sharing their knowledge and experience.

Please address your correspondence to:

*Don Rasmussen
6613 N.E. 49th Street
Kansas City, Missouri
64119*

NESTING OSTRICH..... by Mark Jeffers, Kings Dominion, Lion Country Safari
Doswell, Virginia

Our ostriches have dropped off their egg laying pace of last year. They began around the end of February and went thru August laying around 150 eggs. This year's laying began at the end of March. The six females have two males to choose from this year as opposed to five last year. One male has only been allowed to mate with three females, the others either chase him away or will not sit for him. The other male has only been seen mating with two females usually chasing the others off.

In contrast to last year, our two largest females have not been bred. Last year they were the most active egg bearers. Neither one of these birds will sit for either male. One of the males even chases the females away whenever they are in his area. These two females have sat for more Rangers this year than for the male ostrich.

About a month ago in the middle of April, we arrived to find that one female, "Gertrude" had made a nest. Not only that, but two eggs were in the nest. As we have never had this happen before, much excitement and disbelief was raised amongst the staff. Our experience with female ostrich has been that they do not pay attention to their eggs after laying them. Once laid, the eggs are left for us to pick up and be incubated. However, Gertrude had decided to do something different. In hopes that this nest was for real, we placed another egg she had laid two days before back into the nest. A fourth egg was laid the next day. In the afternoon she broke one of the eggs and ate the contents. The next morning she again had four eggs, and two days later she had five. After breaking another egg she laid three more on a schedule of one every other day. After egg number eight had been laid, she broke another. She sustained the nest for five more days laying another egg on the fifth day. She also broke another on this day.

Gertrude was very diligent in her efforts to maintain a nest. She would tend to the eggs during the day either by standing over them or sitting on them. In their native land the hot sands do most of the incubating while the birds stand over the nest to offer shade. Ostrich are not equipped with a soft brooding pouch like other birds that nest which anyone can attest to after having seen them fight. Luckily the shell of the ostrich egg can withstand around 200 lbs. of weight before it will crack. As our day temperatures averaged in the 70's and nights in the 40's to 50's, she did her best to keep the eggs warm. On occasion during the day she would get up and inspect the eggs. This inspection consisted of pushing the eggs about and out of the nest. Various configurations would be made such as lining them up, placing them in a circle and other shapes.

There have been times that I found all but two eggs outside of the nest. Very carefully, I pushed her eggs back to her. Which she did not object to. This was a feat in itself because she is a very aggressive bird, but she chose to sit rather than fight.

Her nest was a circular hole in the ground that she had dug out herself. The eggs were about half exposed above ground. On two occasions after heavy rains the nest would almost be full of water. The first time she tried to drink the water from the nest. Whether she was just thirsty or whether she was trying to rescue her nest, I could not be certain. On both occasions I ended up bailing her nest out.

Our biggest concern during this time was what was happening to the eggs
continued

at night. The male is responsible for the nest after dark owing some to his color. Gertrude was absent at night from the nest and it was only once that we observed the male on the nest. As the days progressed we became more sceptical of her actual success. She apparently did also. After about a month of care she left the nest for good. We left the nest for two days hoping she would return, but she did not. The male was caught on the second day breaking the eggs and eating the contents. The ones he missed, we pulled. And so, ended our first attempt for the natural hatching of ostrich.

Another of our females "Badassina" began a nest also. She had three eggs in her nest but left it after around three days.

The success of this behavior has many odds stacked against it. Much depends on the ground temperature, the cooperation of the male and the diligence of the female. We had thought of running a heating pad out to the nest for awhile, but decided to let the birds handle it and take their success or failure, as it came. We do know that they are trying to nest and maybe this summer it will happen again.

One bright note, the third egg to be laid this year hatched on 5-13-77 in the incubator. It looks strong and healthy with a good yolk.

THE STRUGGLE FOR SURVIVAL

STATUS REVIEW OF BOBCAT AND LYNX

The U.S. Fish and Wildlife Service announced that it is undertaking a review of the status of two species of North American wild cats: the bobcat (Lynx rufus) and the lynx (Lynx canadensis). The review will determine whether these species, or any populations thereof, should be proposed for listing as endangered or threatened, in accordance with the Endangered Species Act of 1973.

The bobcat originally occurred throughout the "lower" 48 States, as well as in southern Canada and northern Mexico. In recent years it reportedly has declined because of habitat loss and excessive killing by man. There has been considerable concern that rapidly rising fur prices may have resulted in widespread depletion of bobcat populations by trappers. The lynx, which still occupies much of Alaska and Canada, has been eliminated from most of its range in the northern part of the lower 48 States.

Persons with information that may assist in determining whether these species should be proposed for listing as endangered or threatened are invited to write the Director, Fish and Wildlife Service, U.S. Department of the Interior, Washington, D.C. 20240. All comments should be in by November 14, 1977.

RULES REGULATING ENDANGERED PLANTS ISSUED

Rules regulating endangered and threatened plants have been adopted by the U.S. Fish and Wildlife Service.

The regulations published in the June 24, 1977, Federal Register, are somewhat different from those which apply to listed animals and place

restrictions on their interstate and foreign commerce, importation and exportation. The prohibitions also apply to plant seeds, roots and parts.

Since plants and animals are so different, regulations for the two groups are different. These regulations impose no restriction on the "taking" of plants since that prohibition under the Act applies only to animals. Also as with animals, there is no restriction on the intrastate sale of plants. However, some local and State governments as well as Federal agencies may have such prohibitions on lands they administer. In addition, no Federal agency can jeopardize such a species or destroy habitat critical to its survival.

Commercial propagators, amateur hobbyists, scientists, and others who cultivate or deal with endangered and threatened plants will have an easier time obtaining permits for restricted activities than they would for wildlife. However, activities involving listed plants taken from the wild will be strictly regulated.

REPORT ON "TRAINING SEMINAR ON SEXING BIRDS AND ARTIFICIAL INSEMINATION"

FROM Chris LaRue, Dickerson Park Zoo

Because propagation is an important function of a modern zoological park, the ability to determine the sex of a bird has obvious value. Since many species of birds show no external sexual dimorphism, a method of sexing these birds must be developed and learned by as many people as possible.

The training seminar recently held in Houston taught the participants several sexing techniques that can be applied to zoo animals. These included laparotomy, chromosome stain, steroid assay, and laproscopy. Papers were given on each of these methods and were accompanied by demonstrations and training in laboratory techniques. Other subjects of interest covered included artificial insemination, cytogenetics, and a review of traditional sexing techniques.

The three-day seminar attracted approximately 30 people from all over the United States, and one person from Switzerland. The coordinators for the seminar received support from the Zoological Society of Houston, Houston Zoo and the University of Houston.

Hopefully these sexing techniques will be used by many zoos to improve the reproductive potential of their avian collection. The correct sexing and subsequent pairing of endangered species will prove to be a valuable asset to any zoo's research and conservation programs.

DON'T FORGET TO VOTE...MAKE YOUR MARK ON THE FUTURE OF THE PROFESSION...
REMEMBER, BALLOTS MUST BE POSTMARKED NO LATER THAN MIDNIGHT, 30 SEPT.
see page 100 for details, page 103 for the ballot and everything in between is bios on the nominees.....

We are deeply indebted to the AAZPA Newsletter for allowing us to reprint this section from their "Positions Available" listings. This is a monthly service to us, for you...

ASSISTANT DIRECTOR/GENERAL CURATOR... involves the management of the varied animal collection, directs and supervises zoo personnel and carries out other duties as assigned by the Director. Qualifications: Bachelor's Degree in Zoology or a closely related field and five years' experience in a supervisory capacity. Job descriptions available on request. Send resume to: L. Ronald Forman, Director, New Orleans Audubon Park and Zoological Garden, P.O. Box 4327, New Orleans LA. 70118.

o p p o r t u n i t y k n o c k s

CALIFORNIA PEREGRIN PROGRAM PROGRESSES: *from Outdoor News Bulletin, 1 July, 1977*

The California Department of Fish and Game reports that two young peregrine falcons have been moved across country and put in an eyrie where a nesting pair failed to reproduce this year, according to the Wildlife Management Institute.

A Department spokesman said the attempt to raise young peregrines in a foster nest is the first Pacific Coast test of techniques developed and successfully used in New York, Colorado, and Canada.

The young pair were brought west from Cornell University at Ithaca, N.Y. They are of the Anatum race native to California and were hatched in captivity from eggs produced by New Mexican breeding stock.

First reports from the release site indicate that the foster parents are taking over their new duties in normal fashion.

MEMBERSHIP INFORMATION

Affiliate (Keepers) and Associate.....	\$10.00 annually
Foreign.....	\$15.00 annually
Student.....	\$ 5.00 annually
Contributing (Organizations).....	\$25.00 annually

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Send name and address and a check or money order to:

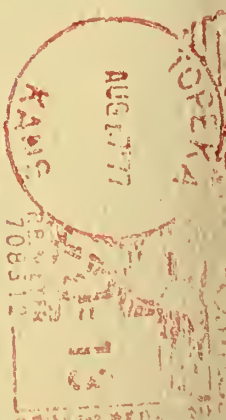
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COVER DRAWING ADAPTATION OF ORIGINAL ARTWORK BY PERRY LABELLE

Deadline for each edition of AKF is the 20th of the preceding month

SCOOPS and SCUTTLEBUTT

TWO-YEAR PROBE LED TO INDICTMENTS OF 12 WILD ANIMAL DEALERS

The indictment of 12 wild animal dealers August 4 by a Philadelphia grand jury exposed one of the largest operations of illegal trade in reptiles ever uncovered.

The case involves violations of wildlife laws in Switzerland, Australia, Papua, New Guinea, Singapore, the Philippines, Fiji, and Ceylon, in addition to the United States, according to Director Lynn A. Greenwalt of the Interior Department's U.S. Fish and Wildlife Service.

He said the case is perhaps the most complex of its kind ever encountered. The indictments cap a 2-year investigation by the U.S. Customs Service of the Treasury Department, the Justice Department, and special agents of the U.S. Fish and Wildlife Service.

No zoo personnel were indicted. Whether any zoos or their personnel will eventually be proceeded against is still being considered by the Department of Justice. Eight zoos were mentioned in the indictments as having received the reptiles. These were the National Zoological Park, Washington, D.C., the Philadelphia Zoo, St. Louis Zoo, The Overton Park Zoo in Memphis, Tenn., Sacramento Zoo, Knoxville Zoo, Dallas Zoo, and the Seneca Park Zoo in Rochester, N.Y.

The indictments charge violations of the Lacey Act, certain sections of the Endangered Species Act, as well as U.S. Customs laws, including:

- transporting in foreign commerce wildlife taken and transported in violation of foreign law;
- selling in interstate and foreign commerce wildlife taken and transported in violation of foreign law;
- aiding and abetting and smuggling;
- conspiracy to violate U.S. Customs law, the Endangered Species Act, and the Lacey Act.

Based upon reports, agents discovered approximately 75 Australian and New Guinean lizards, tortoises, and snakes buried near Medford, New Jersey, in May of 1975. This triggered a worldwide investigation into the unlawful transportation of reptiles which turned up a myriad of Lacey Act and Customs law violations in the reptile trade. The Lacey Act prohibits traffic in wildlife involved in violations of foreign or State laws.

Literally thousands of documents were obtained from zoos and wildlife dealers indicating that during 1973 and 1975 several United States and foreign dealers had illegally imported, transported, and sold wildlife to United States zoos. The reptiles included crocodilians, lizards, snakes, and tortoises, many of which are listed on Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora. There was also one Nile crocodile, which is on the U.S. endangered species list.

Indicted were ; Henry A. Molt, Jr., Pennsylvania, 54 counts; David Christensen, Pennsylvania, 1 count; Edward B. Allen, Pennsylvania, 17

country; Seven Neil Levy, Pennsylvania, 17 counts; Y. L. Koh, Singapore, 1 count; Robert A. Udell, Pennsylvania, 6 counts; Christopher Wee, also known as Wee Boon Keng, Singapore, 4 counts; Jonathan Leakey, Republic of Kenya, 1 count; Maurice Van Derhaege, France, 1 count; Alvin Weinberg, Pennsylvania, 2 counts; Rudolf Komarik, New Jersey, 1 count; and Walter Zinneker, Switzerland, 1 count.

BIRTHS HATCHINGS

BROOKFIELD RHINO BIRTH ...*from the Brookfield Zoo*

Brookfield Zoo was in 1941 the site of the first black rhinoceros birth in captivity; Brookfield repeated its achievement the morning of 15 August, when a black rhino was born to mother Brooke and father Courtney.

The baby male weighs an estimated 75 pounds, stands 20 inches tall and has a small, soft horn. As yet unnamed, the baby is nursing and - as with any infant - is sleeping regularly. He is in a yard outside Brookfield Zoo's Pachyderm Building with mother, father and another black rhino, Judy, 8. All four also have access to the inside stall.

This is the third birth of this endangered species at Brookfield Zoo, and the first birth of a black rhino at Brookfield in 33 years. The birth brings the zoo's black rhino herd to five. One of these animals, 44 year old Mary, is the oldest black rhino in captivity, and the mother of that 1941 notable birth.

AKING SNAKES HATCH.....*by Dora Jacobs, Rio Grande Zoo*

Rio Grande Zoo, Albuquerque, New Mexico, celebrated its first productive reptile breeding recently. A garter snake previously gave birth to a litter, but she was bred before we received her, since she was caged alone here. A pair of common king snakes, Lampropeltis getulus, were seen mating on March 21 (an appropriate way to commemorate the Vernal Equinox, wouldn't you say). Then, on May 20 and 21, a clutch of seven eggs was laid by the female. How she carried them is a never-ending mystery to me, since they appeared to have a greater total mass than the snake herself. No wonder she didn't eat for weeks before, and then ate everything that came into the cage, including one attempt on her roommate, who had to be rescued by the keeper with tactics reminiscent of Punch and Judy.

The eggs were confiscated by the Curator of Reptiles and Birds, Michael Williamson, placed in a plastic jar full of damp sphagnum moss, which was tightly covered by plastic wrap, and then left to their own devices. Most of them developed a sinister-looking furry green vegetation, and three of them caved in before long, but on July 18 through 20, three of the firmest and whitest hatched. Two of the hatchlings were striped like the parents, but one was banded black and cream. Unfortunately, the banded one and one of the striped ones were deformed and had to be euthanized. The surviving striped hatchling was given its own cage, and we are eagerly awaiting its first shed so that we can offer it food. We are also curious to see if the parent pair will breed on a regular annual basis and produce any viable banded offspring.

HADDOCK AND HOSPITALITY

by
Tom Goldsberry
Washington Park Zoo
Portland, Oregon

The island of Jersey, due to its unique geographical location and strict residency requirements, is not exactly a keeper's paradise. Under Jersey law a person must be a resident of the island ten years to even be able to rent a house; this is doubled to twenty years when wishing to buy. Ten years is a long time in a sleeping bag, or in an expensive hotel on a resort island like Jersey. Nevertheless, keeper turnover at the Trust is fairly low; almost all of the twenty-odd keepers are young and college graduates. In spite of the unusual residency requirements, or perhaps because of it, there is a strong camaraderie amongst the keepers.

English keepers are not usually hindered by municipal hiring practices as North American keepers are, thus it is not unusual to talk to keepers who have worked in five or six zoos in a comparatively short time.

Margaret Mallet, wife of John Mallet, Curator of Birds, and the only woman keeper on the staff won a Silver Medal in 1975 for her work with the Waldrapp or Bare-faced Ibis (Geronticus eremita). Only three breeding colonies of this species are found in the wild. Two of these, both in North Africa, are soon to be destroyed by a dam. The third, in the Turkish town of Biercik, near the Syrian border, is slowly being eradicated by the persistent use of DDT and human encroachment. In 1972 only nine chicks were reared at Biercik.

By 1975 a specifically built aviary had been constructed on Jersey for the ibis. With the help of the Basel Zoo, where the Waldrapp Ibis have been bred for fifteen years, recent acquisitions from the Tel Aviv Zoo, plus the dedication of one keeper, one more endangered species has at least a fighting chance for survival.

We all make out daily reports, but have you ever gotten the feeling that somebody up there wasn't listening? Not so at Jersey. Meticulous record keeping, along with keeper dedication and funding, are probably the three major factors contributing to the success of Jersey.

Each day all unusual animal behavior is logged by the keeper in a special book in the main office. This information is painstakingly typed onto one of three permanent record cards that will follow the animal wherever it goes. Nothing will darken the usually pleasant face of Gerald Durrell quicker than to receive an animal from another zoo with only the barest name-rank-and serial number information accompanying it. "Does that mean that the animal has done nothing but sit on a ledge for two years?", he exclaimed to me at a Member's night meeting. Good point.

Maybe the Jersey formula for successful breeding isn't perfect, but it will suffice until a better one comes along. In the meantime, other zoos can take consolation in knowing they share one thing in common with Jersey--their vending machines also lose money in the winter.

This is the fifth installment of a six-part series.

Next month: The Chester Zoo.

Reptile Amphibian potpourri

Most reptile collections have more animals on "holding" than on exhibit. The ubiquitous ten-gallon aquarium with screen top is quite satisfactory for most specimens; the most popular substrates being newspaper, wood shavings and fine gravel. The standard setup, however, is unsuitable for many specimens which are high-strung and fragile. I'm referring specifically to small, scansorial lizards such as Anolis, Gekko and Phelsuma. You can work around these lizards in a larger exhibit cage, but it's harder to do in a ten-gallon aquarium - especially since they have a knack for darting out when the top is open. With just a few modifications you can prevent a great deal of trauma to both yourself and the specimen.

I've found that I get better results if the aquarium is turned on its end. You lose a lot of floor area but these types of lizards prefer the extra vertical space anyway. You can add to their territory by fixing a few lengths of bamboo towards the back of the tank with aquarium sealer. This also gives them somewhere to hide while you "work" the cage. When you slide the screen back the front of the tank is blocked by your entire body. This decreases the chance of an escape, since most reptiles will instinctively avoid human contact. With this setup no substrate is necessary; simply clean the floor area with whatever detergent you use and rinse with water.

Since the diurnal Phelsuma are so visually oriented, I paint green stripes on the sides of the tanks. This allows light to enter while giving them extra security. With this particular setup, two animals in adjacent cages are less likely to be distracted by each other.

If you have trouble finding slide-top aquariums, the "Ranger" brand reptile cages are an excellent substitute. These come with dual plastic tracks that can hold a pane of glass to cover the front of the cage. We use two sheets of plexiglas, each slightly longer than half the length of the cage. The pane for the inner track has a reinforcing strip of plexiglas (1) glued to the outer surface, while the pane in the outer track has a strip (2) on the inner surface that butts up against the other strip when the cage is closed. A hole is drilled at each end for a bolt or padlock and a 1" plexiglas strip (3) glued on the end for a handle. You may want to attach another strip (4) on the side of the cage. This compensates for the gap between the outer panel and the cage.

(note: Reptile cages mentioned in text marketed by Ranger Auto Co.,
Rte. 110, Clinton, Mass. 01510.)

*Direct all comments to RAP, Division of Reptiles and Amphibians,
National Zoological Park, Washington, D.C. 20009.....*



**Don't forget
to Vote!!**

RARE GALAPAGOS TORTOISE GOES HOME

A rare Galapagos tortoise from the San Diego Zoo has been returned to his native habitat.

The Hood Island (Española) tortoise left San Diego August 2 for the Charles Darwin Research Station on the Galapagos Islands, 600 miles west of Ecuador. After a quarantine period there, he will be reunited with the 14 surviving members of his species plus tortoises of ten other species. His introduction is part of the Darwin Station's program to restock the islands with their native wildlife.

He was scheduled to arrive at the Darwin Station on Monday, August 8.

The tortoise, which has lived at the Zoo since the mid-1930's, weighs approximately 198 pounds.

The tortoise is the species native to Hood Island, one of 13 major islands in the Galapagos Archipelago. He is being returned there to try to increase the population of a tortoise species which once seemed doomed to extinction.

The Charles Darwin Research Station was built in 1959, largely with funds contributed by the World Wildlife Fund - U.S. The tortoise facility at the station, constructed in 1969, was built primarily with funds from the San Diego Zoo. Both the World Wildlife Fund and the San Diego Zoo have been responsible for the tortoise conservation program at the Darwin Station.

Thirteen Galapagos tortoise eggs were hatched at the Zoo in July, 1976, and prior to that date the last hatching of the rare giant tortoise at the Zoo occurred in 1971 when one egg hatched. Although egg-laying had occurred in the tortoise herd over the last several years, the eggs proved to be infertile.

Don't Forget to Vote...the deadline is midnight, 30 September, 1977. See the August edition of Animal Keepers' Forum for all details.....

CARLETON BAILIE, of Kings Dominion in Virginia, will be heading up the revitalized T-shirt project. He needs to get a rough idea of how many may be requested so that he can figure a price. The more people that would desire to wear an AAZK T-shirt, the cheaper they will be. Tank shirts will also be available if there is sufficient demand. The T-shirt will consist of a Ringer T-shirt with a 4"X6" AAZK emblem on the left front. The emblem will be printed in white. Why don't you drop Carleton a line and tell him just how many you'll be needing. Include your name, address, and zip code. The shirts are available in blue, red, yellow and green. Both men's and ladies sizes are small, medium, large and extra large.

THIS DOES NOT CONSTITUTE AN ORDER. SEND NO MONEY NOW. THIS IS FOR INFO PURPOSES ONLY...SEND YOUR LETTER TO CARLETON BAILIE, OFFICE OF ANIMAL MANAGEMENT, KINGS DOMINION, RFD 166, DOSWELL, VA. 23047...

Great Ape Demonstration

CHIMPANZEE BIRTH AT LITTLE ROCK ZOO *reported by Carroll Hargrove*

Born at the Little Rock Zoo, 16 June 1977, a male infant to "Juan" and "Kim". Both "Juan" and "Kim" have been parents three times before. The new infant is being well cared for by "Kim" on Chimp Island. Also residing on the island is an older female juvenile of "Kim" and two other females.

EDUCATING PARENTS, OR PUTTING THE NURSERY OUT OF BUSINESS *by Frederick M. Dittmar*

Although nurseries are doing a wonderful job with a wide variety of infant animals, I am glad to see fewer great apes being admitted. The trend to educate young adult gorillas in parental care is ever increasing. Mature apes that have been raised in a nursery often have difficulty communicating with each other; likewise, their social interactions, aggressive encounters, and even reproductive behaviors are frequently abnormal. It is not surprising, then, that social behavior as complex as maternal care is frequently inadequate. There is no strong maternal instinct in higher primates. All evidence suggests that females must learn to care for their infants. (1)

At the San Diego Wild Animal Park, Dolly repeatedly removed her infant when he attempted to cling following birth in 1973. Dolly spent the next summer in an intensive training program designed to teach her the fundamentals of motherhood. Dolly was shown films of mother gorillas caring for their young, then she was introduced to a doll as a surrogate infant. (2)

The following year, 1974, Dolly gave birth again, this time giving perfect mother-infant care.

The San Francisco Zoological Garden is currently taking the fundamental training one step further with Minnie, a chimpanzee. They had trained her with a surrogate doll following the birth and death of an infant. The second infant was cuddled, kissed and groomed, but was born dead. It had suffocated. Evidently Minnie did not know how to clear the nasal passage and mouth. (3). With another doll, the SFZG is adding straws filled with fruit juices. This draws Minnie's attention to the infant's face.

At the Oklahoma City Zoo in 1973, Kathy, a thirteen year old gorilla, gave birth to Fredrika. Kathy was isolated from our other two females, Fern and Boma. They had sight contact and observed the mother-infant care for two years. On Fredrika's 2nd birthday she was introduced with the two females and her father, Moemba. They seem to enjoy playing with and having Fredrika cling and ride as they walk around. Have these females been trained in the basic infant care? Fern is due in September, hopefully we'll find out if she's been trained well.

(1) "Learning to be a Mother", Zoonooz, April, 1975, Vol. XLVIII, #4

(2) "Briefs...Steve Joines SDWAP", Zoonooz, Nov., 1974, Vol. XLVII, #11

(3) "Doing What Comes Naturally", Lee White, At the Zoo, SFZSP, Aug., 1977, Vol. XXII, #8

Send comments, ideas or articles to Fred Dittmar, 511 N.W. 29th., #204, Oklahoma City, OK. 73103...

Veterinarians and Keepers.....

by Joseph T. Bielitzki, DVM, MS
Topeka Zoological Park

ELEPHANT PEDICURE

The foot of an elephant, even though shaped like a tree trunk, is a tender structure whose function is governed by the downward force of gravity and the upward push of the earth. The weight bearing surface of the foot is flat and has a surface area of approximately 115 square inches per limb. This means that the average 6,000 lb. elephant bears about thirteen pounds per square inch of foot. At first this may not seem like a great deal of weight until the mechanism for weight bearing in the foot is examined. An elephant walks on the tips of the digits, or toes, and these are responsible for weight transfer up the limb. At the tip of each digit is a flat toe nail whose main function is decreasing the force on the digit by increasing its surface contact area. The sole of the foot further decreases weight bearing on the digits by expanding a large cushion like pad against the plantar surface of these bones. If it were not for this system an elephant would need to bear about seventeen hundred pounds per square inch of bone toe.

A system this delicate can be upset by a number of factors, most of which revolve around the toe nail. In captivity most elephants have a greatly abbreviated range, consequently their nails become overgrown.

This overgrowth can be seen as a lateral spreading of the nail, or as an outward bulge. Either situation can result in a more uneven weight transfer up the foot and increase the chance of arthritis in these distal joints.

Another frequent consequence of nail overgrowth can be large cracks developing in the nails. These are most frequently seen on the hind feet in the largest and most centrally located nail. Several situations probably contribute to the condition: 1) inadequate nail wear, 2) outward bulging of the nail, and 3) a training routine which involves the animal going into the down square position (weight on the sternum, elbows and knees) on rising all weight is placed on the front of this single toe nail. The result - a large crack perpendicular to the ground at the part of the toe which contacts the floor on rising.

A method for repair consists of immobilization of the animal and manually shaping the toe back to a more normal shape. The crack is then pared out, cleaned and a dove tail is cut into the nail. This remodeled imperfection is then filled with an acrylic material made for equine and bovine hoof repair (Technovit). At application the nail should be completely dry and free of debris. By filling the crack for three to four weeks adequate new growth of the nail results in a much stronger structure. The crack should not continue to extend and the animal is less likely to develop arthritis at this site.

Immobilization is necessary only because the dove tailing process will cause some bleeding and most well trained animals are reluctant to remain calm enough for the whole process.

After filling the acrylic is rasped down to conform to the shape of the toe. The acrylic mentioned is grey in color and not overly noticeable to the zoo visitor. Should the acrylic fall out it can be replaced without immobilization but caution should be exerted during its application since much heat is generated as the acrylic polymerizes.

PANGOLINS AT THE OKLAHOMA CITY ZOO....by Jim L. Powell, Keeper

The Oklahoma City Zoo has maintained two Indian Pangolins *Manis crassicaudata* for twelve years in captivity.

In general pangolins have had a very high mortality rate whenever zoos are concerned. This seems mostly to be the result of little knowledge of their habits and physiology. A large percentage of pangolins never make it to their intended zoo. Undoubtedly shipment takes its toll, implying stress as a causative factor. Also, once introduced to their new environment, a proper diet seems a constant problem.

Our pangolins have been doing very well, however, and have not have had so much as a cold since their arrival. They are fed once a day at 8:30 a.m. and are usually "up and around" at this time. They have become quite friendly and greet their keeper upon his/her arrival. For the next hour both females will shuffle about the exhibit sniffing loudly. They almost become a nuisance constantly moving about while routine cleaning and feeding is being done. Other residents of the exhibit are four Indian Fruit Bats *Pteropus tonganus* and five Senegal Bushbabies *Galago senegalensis*. The exhibit is part of the nocturnal building. In this building, red and white lights alternate on a 24 hour night/day cycle so that the mammals' circadium rhythm may be coordinated with public visitation hours.

Recently the pangolins refused to eat for a period of 21 days. We managed to get them to drink a little water and also gave them subcutaneous injections of antibiotics. We were unable to take a temperature reading but were able to get a mean body tempterature reading 81°F when the animal was coiled. Our veterinarian discovered in further reading that pangolins have been known to fast for long periods of time. Apparently this must be true since at the end of their period the pangolins resumed their usual appetite.

In conclusion, I see no clear reason for the zoo's success with pangolins. Possibly maintenance of a constant 65°F temperature, a proper diet, the exhibit, or a combination we have not been aware of.

PEREGRINE RESTORATION UNDERWAY IN IDAHO

The endangered peregrine falcon is being reintroduced into Idaho's Snake River Birds of Prey Natural Area by the U.S. Bureau of Land Management according to the Wildlife Management Institute.

Four young peregrines hatched in captivity at Cornell University's Laboratory of Ornithology at Fort Collins, Colorado are being placed in the nests of prairie falcons within the Snake River area. Experts believe the prairie falcons will accept the young peregrines and raise them as their own.

Today, primarily because of DDT pollution, there are only 53 known pairs of wild peregrines in the U.S. outside of Alaska. Originally the Snake River area was part of their natural range. A single peregrine was sighted there in 1975.

The Snake River Birds of Prey Natural Area was established by BLM in 1971. It supports populations of prairie falcons, eagles, hawks and owls.

THE POLITICS OF POACHING

by
Tom Goldsberry
Washington Park Zoo
Portland, Oregon

Before everyone starts popping champagne corks over Kenya's recent decision to prohibit commercial hunting, let's take a closer look at the situation.

Was it really a momentous decision designed to help save the wildlife of Kenya, or was it merely a sop to placate the conservationists, particularly in North America, in believing that all the animals are safe and will live happily ever after?

Is this just another political ploy of the all-powerful Kenya African National Union Party to play off the well-meaning but oft-times mislead armchair conservationist, who thinks he can now sit back and relax and say to himself, "Thank God, the animals are safe," against the euphemistically described "big fish" politicians in the country -- with the animals the ultimate loser?

While a ban on commercial hunting may seem like an ideal solution to the problem of Kenya's dwindling wild life, its effect is actually negligible. In fact, it may have just the opposite effect because the animals most widely poached will no longer even have the minimal protection of a quota they once had as designated game animals. It will literally be open season on everything.

The original idea behind the plan is laudable enough, but naive. The precedent has already been established in Tanzania which banned hunting some years ago. The complete plan is to impose a one-year moratorium on all legal hunting, including culling and cropping, in order to allow animal populations to recover; but mainly to allow Kenya to regain some of its international prestige. The trouble is nobody has told the poachers!

The problems of increasing human population and highly organized poaching operations have a far more devastating effect than the lone hunter who pays this \$975 license fee to shoot one leopard.

Concerning human population, with a continuing birthrate of 3.5%, one of the highest in the world, Kenya must solve its own problem of what to do with its people since recent statistics have revealed that 48% of nearly 11,000,000 Kenyans are under the age of fifteen. Steps are being taken to educate young Kenyans in conservation awareness but the process is a slow one. Of a far more immediate concern to the animals is the blatant, rampant, and ever-expanding problem of poaching.

As far back as 1960, Sir Julian Huxley, the eminent British zoologist and naturalist, wrote in a study commissioned by UNESCO, "most poaching is frankly for money--money from the sale, often for export, of commercial valuable trophies. The main trophy is elephant ivory, employed chiefly for knick-knacks and curios." Elephant ivory is what we are primarily concerned with in this article.

For what it was worth, there was supposed to be a ban on elephant hunting and ivory trading in Kenya in 1973. Apparently there was a slight leak because during the first five months of 1973 the official export of ivory was 150,000 kg., representing 15,000 elephants. In 1960, a kilo

continued

of ivory brought \$15.00; by August, 1973 the figure was \$110.00 per kilo. The official selling price was \$31.00/kg. whereas the market price was \$110.00. What happened to the balance? It isn't hard to guess. Not all of this was smuggled away in ships; on July 14 of that year, one airline alone carried 4½ tons, all of it "licensed", from Nairobi to Hong Kong. In 1976 the game department sold twenty-nine tons of ivory, yet the total of ivory exported was 127 tons. Another slight discrepancy.

If, by now, anyone thinks that poaching is carried on by a few random natives, he must indeed be naive. The individual poacher is of little consequence; he will have no trouble in collecting his twenty shillings for his part in the slaughter, and even less trouble spending it at the Indian store in Narok, or on a ration of pombe and some fat-bottomed mama along Kimathi street in Nairobi. It is the men who provide the trucks to carry the tusks; who rent the warehouses in Mombasa while waiting shipment; who pay the longshoremen; who carter the ships; who pay the captains and the crews; who do the bribing at the other end; in short, the international ivory cartel. This must be of great consolation to the 7500 elephants poached in Tsavo park alone last year.

At one time legitimate ivory sales were held periodically in all East African ports and Rhodesia. A certain amount of ivory was shipped to England and resold in the London market, where sales were held four times a year. Since last year when England ratified the Convention on International Trade in Endangered Species of Fauna and Flora, elephant tusks may no longer be imported into Great Britain, but this does not preclude the importation of "worked" ivory products. It remains to be seen if "worked" ivory will include polished tusks. In Kenya, where the exportation of raw ivory is, by definition, "controlled", and may not be sold "over the counter", a raw ivory tusk may be trimmed, polished, and sold freely, much to the delight of the owners of Nairobi's 213 curio shops.

Incidentally, Kenya politicians, as of this writing, have not only failed to ratify the above mentioned Convention but have actually repealed the Wild Animals Protection Act and the National Parks of Kenya Act, thereby leaving the door open even wider for wholesale poaching.

If ivory was strictly a utilitarian substance that could be easily synthesized the situation might be different. Hard plastic now has taken the place in the manufacture of billiard balls and other miscellaneous items; also, vegetable ivory, the fruit of the ivory nut palm or tagua (*Phytelephas*) which is found in South America is an adequate substitution. But there is no possible way to manufacture an ivory substitute that cannot be recognized as such. The graining of ivory is impossible to copy because it has no uniformity, and the creamy white color, which yellows with age, cannot be reproduced. The problem lies in the fact that ivory, like gold, possesses an intrinsic value; unlike gold however, ivory comes from a living thing.

Maybe some day when all the elephants have been eliminated, someone will begin poaching the politicians.

[GREGG OWENS] formerly manager at the Oakland Baby Zoo, has transferred to the San Jose Baby Zoo. He assumed duties as director there on 1 September. All correspondence should be sent to Owens at the San Jose Baby Zoo.....

GIANT PUERTO RICO LIZARD LISTED AS ENDANGERED SPECIES

The giant anole (Anolis roosevelti) a large 24-inch lizard of Puerto Rico, has been determined to be an endangered species by the U.S. Fish and Wildlife Service.

The rulemaking, published July 18, 1977, in the Federal Register also listed a portion of Culebra Island near the Puerto Rico mainland as critical habitat for this rare species.

The giant anole may survive only in the high tree canopy of the forested slopes of Mt. Resaca on Culebra Island. The fan-leaved palm, tallest tree in the forest, and indeed the semi-moist forest in general, is quickly disappearing because of man's activities. Unless the remaining habitat on Mt. Resaca is protected this lizard could become extinct, according to Fish and Wildlife Service biologists.

MARIANAS MALLARD AN ENDANGERED SPECIES

The Marianas mallard (Anas oustaletti) of the western Pacific Ocean has been determined to be an endangered species.

The Marianas mallard is found only on the islands of Guam, Rota, Saipan, and Tinian. The wetlands utilized by this duck have been, and are continuing to be, extensively drained.

STATUS OF RIVER OTTER TO BE REVIEWED

The status of the river otter (Lutra canadensis) will be reviewed by the U.S. Fish and Wildlife Service to determine whether it should be proposed for listing as a threatened or endangered species.

The study is being conducted following receipt of a petition submitted by the Fund for Animals, a conservation organization, which presented sufficient information to merit a review. Anyone having additional information that may assist in determining whether this species, or any population thereof, should be proposed for listing as endangered or threatened, is requested to write the Director (OES), U.S. Fish and Wildlife Service, Department of the Interior, Washington, D.C., 20240. All comments received by November 25, 1977, will be considered.

continued

"CRITICAL HABITAT" DETERMINED
FOR MISSISSIPPI SANDHILL CRANE

About 26,000 acres of land in Jackson County, Miss., where the endangered Mississippi sandhill cranes live, have been finally designated as "critical habitat," pursuant to the Endangered Species Act of 1973.

On June 30, 1975, the U.S. Fish and Wildlife Service Director made an "emergency determination" of critical habitat for the Mississippi sandhill crane, covering a considerably larger area, and published it in the Federal Register. An imminent threat of habitat destruction was created by the construction of a new segment of Interstate Highway 10 in Mississippi.

The area determined to be critical habitat is privately owned and contains the only known population of the Mississippi Sandhill crane. Private development on private land is not prohibited by the Endangered Species Act of 1973, but Federal agency action that would violate critical habitat is specifically forbidden by that law. Federal Interstate Highways are financed by a 90 percent Federal contribution to costs of construction.

Each spring a male skunk develops hair loss, lesions, and redness of skin. The skunk is exhibited in an open outdoor enclosure with concrete flooring. After treating with Pet-Derm, the redness and the lesions subside, but no noticeable hair growth until late summer.

Any information on hair loss or treatment of condition would greatly be appreciated.

help!

Everett Harris
Indianapolis Zoo Park

The condition described sounds very much like atopic dermatitis. This is generally due to a local allergin, and is characterized by a hyperimmune reaction, including itching (pruritis), self mutilation (hair pulling) red (erythema), raw areas of skin, and scale formation (seborrhea) in affected areas.

Treatment should consist of systemic corticosteroids to relieve the itching with the duration of treatment dependent on the severity of the case. Antihistamines are generally of little value. As to the hair loss some may be due to seasonal moult, but those areas of long time baldness (alopecia) may be due to self inflicted trauma. Hair will start to re-grow about six weeks after the skin condition is controlled. This condition is generally seasonal and becomes more severe as the animal becomes older.

Joseph T. Bielitzki, DVM, MS
Topeka Zoological Park

We are deeply indebted to the AAZPA Newsletter for allowing us to reprint this section from their "Positions Available" listings. This is a monthly service to us, for you...

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ZOO SUPERINTENDENT... responsible for administration and operation of an expanding zoo. Must be knowledgeable of municipal zoo administration, including modern standards in the display of mammals, birds and reptiles and modern maintenance methods. Combination equivalent to Bachelor's Degree in Zoology or closely related field and 3 year's experience in zoo work. Salary \$13,200 - \$17,400. Send resumes to Director of Personnel, Elmer R. Jeter, Department of Personnel, 1st Floor East Wing, City Hall Building, P.O. Box 1531, Norfolk, VA 23501 by September 15, 1977. Equal Opportunity Employer.

CURATOR...at the Los Angeles Zoo. Bird expertise will be desired but not required. Information will be available from Warren Thomas, DVM, or Ralph Crane at the conference in San Diego.

ASSISTANT ZOO SUPERINTENDENT... specialized technical and supervisory position in assisting in the administration of the zoological park. A degree in life sciences or animal husbandry and two years' practical experience in the operation of a zoological park is required. An equivalent of training and experience are acceptable. Salary is \$13,466-\$16,521. Applications may be obtained from Andrew R. Vanderveen, Civil Service Board, Room 816, City Hall, Grand Rapids, MI 49502.

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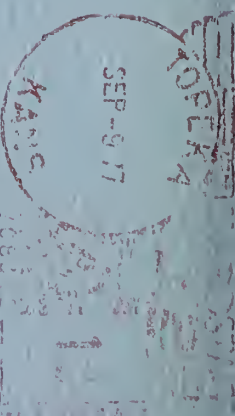
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COVER DRAWING ADAPTATION OF ORIGINAL ARTWORK BY PERRY LABELLE

Deadline for each edition of AKF is the 20th of the preceding month

SCOOPS and SCUTTLEBUTT

KEEPER FOILS ALLEGED MURDER PLOT

MADISON, Wis. (UPI) - Cobra venom was plotted as the death weapon in an estranged wife's murder for hire plan to kill her businessman husband, authorities charge.

The complaint said the venom was to have been used to make it appear Miles C. Durfee, 73, died of a heart attack.

Cash bail of \$40,000 was set for Mrs. Charlotte Durfee, 46, Janesville, Wis., who was charged with conspiracy to commit murder.

Loren C. Moore, 46 Milton, Wis., was charged with solicitation to commit murder. Bail was set at \$5,000 cash.

The killing of Durfee who owns roofing companies in Janesville and Madison, was allegedly to have taken place before divorce proceedings involving him and Mrs. Durfee were completed.

The complaint said Moore talked with Thornton Willoughby, an attendant at Madison's Vilas Park Zoo, this month and asked questions about snake venoms that would be fatal but appear to have the effect of heart attacks.

The complaint said Moore told Willoughby Mrs. Durfee had offered considerable money for the death of her husband and Moore offered Willoughby \$5,000 for cobra venom.

Willoughby got in touch with police. Moore was arrested, authorities said, as he was handed a vial and syringe by Willoughby.

BABY BLACK RHINO IS KILLED

The male black rhinoceros born at Brookfield Zoo on August 15th was fatally gored on August 25th. Zoo officials were unsure which of the three adults that occupied the same outdoor paddock was responsible. The baby and his mother and father, as well as another adult female, had been living together since the day of his birth. The baby, which had not been named, had grown appreciably to 112 lbs. and had otherwise appeared healthy.

BIRTHS HATCHINGS

HEDGEHOG-BIRTHS AT TURTLE BACK ZOO...by Lillian Dieterle

Turtle Back Zoo is pleased to announce the birth of 3 white-bellied hedgehogs *Atelerix albiventris* on June 17. All three babies survived and are doing well. White-bellied hedgehogs are native to W. Africa

EMPEROR TAMARINS BORN AT THE LOS ANGELES ZOO...by Warren D. Thomas, DVM
Zoo Director

One of the most desirable marmosets for Zoos to show has always been the golden lion marmosets, but one of the most spectacular members of the Callithricidae is the Emperor tamarin. *Saguinus imperator*. This beautiful little tamarin, with its long, flowing mustache, is not only distinctive but appealing to almost everyone. They have been kept in captivity sporadically over the years, but no significant, successful breeding effort has ever been maintained.

The Los Angeles Zoo was fortunate enough to obtain 3 pair from Bolivia on October 1, 1976. The animals appeared to be young adults for the most part. Their period of adjustment was relatively uneventful. At first, they tended to be highly nervous, but later calmed down and became quite tractable.

They show an unusual array of gestures and motions as well as an extensive repertoire of focalizations.

Two pair have been maintained in the Marmoset Colony and the third pair was first maintained in a large window exhibit in the Reptile house, then was later moved to their own exhibit in the South American area.

At the time of this writing, one of the pairs in the Marmoset Colony and the pair in South America have both successfully given birth to a set of twins. Both sets of parents seem to be doing an excellent job of rearing the young. The female of the third pair seems to be pregnant at this time.

When the first specimens of Emperor tamarins were sent back to Europe in 1907, they were prepared with their mustaches turned upward in the manner of Emperor Wilhelm of Germany, thus receiving their common name.

GECKO HATCHES

AAZK President Bela Demeter, a reptile keeper at the National Zoo announced the hatching of a giant day gecko on 21 August. The hatchling weighs 1.5 grams and is about an inch long. Bela had a paper published in the International Zoo Yearbook, Vol 16, 1976, on these animals.

BIG NEWS IS SMALL BABY

Our rare-in-captivity ring-tailed mongooses from Madagascar produced another of their kind on August 9. Two years ago they had a baby which was stillborn. This baby has been removed from the mother and is being hand-reared by Pat Larkin. Curator Miles Roberts says that this is the first recorded instance of a ring-tailed mongoose being born and surviving in the Western Hemisphere. According to INTERNATIONAL ZOO YEAR BOOK 17, the only other zoo outside of Madagascar that has this rare mongoose in its collection is the zoo in Montpellier, France, which has a total of eight.

(reprinted from TIGER TALK, National Zoo, August 18)

PYGMY HEDGEHOG TENREC BIRTHS DOUBLE CAPTIVE U.S. POPULATION by Melissa
Burtt, Senior Keeper and Joseph T. Bielitzki, DVM, MS, Topeka
Zoological Park

The pygmy hedgehog tenrec, *Echinops telfairi* (Martin, 1838) has shown a progressive decline in captive numbers over the last ten years. The 1976 IZY showed a captive world population of 36 with ten of those individuals being in U.S. zoos. The Topeka Zoological Park has had *Echinops* in the collection since 1967. During the last ten years, nine young have been born at the zoo with a maximum litter size of four and an average for the four litters of two. A female obtained in 1969 as an adult died in 1976. It is felt that this may be a captive longevity record for the species.

With the passing of time and the reduction in numbers, coupled with poor reproduction, the Topeka Zoological Park's tenrecs were becoming quite rare. A new unit was constructed in 1977 for the remaining pair at the zoo. The off-exhibit breeding unit was constructed in an L shape, measuring eight feet long and four feet deep giving a total of forty-eight square feet. Lighting and temperature are strictly regulated to allow optimal conditions for reproduction. The flooring is covered with soil and planted with non-toxic plants. Tree limbs and large pieces of bark are provided for security, exercise and naturalism. The diet offered is crickets coated with Pervinal, Zu=Preem herp diet (Hills Riviana) and pinky mice.

After introduction of the pair the female died shortly at an age of five years. Another female for the lone male was not available at that time, but the Denver Zoological Gardens did agree to loan a pair of recently acquired *Echinops* to the TZP.

On June 19, 1977, the pair arrived at the zoo after a ten hour ride in the back seat of a car. They were quarantined for ten days, found to be healthy and placed in the breeding unit. Then began the wait; breeding was not expected the first year due to the physiological need for a period of torpor prior to ovulation. With an expected gestation of 51 - 56 days, a litter was not expected 57 days after the pairs arrival at the zoo, but it happened. A litter of eight soft spined blackish pups were found in a nest along with the female on August 15, 1977.

The male was allowed to remain in the unit and has not paid any attention to the young. All pups opened their eyes between 10 and 15 days of birth and by 30 days old were almost completely weaned and about one-third the size of the adults. Weights were not taken to avoid any possibility of losses, nor have sexes been determined as of yet. It is hoped that a second litter of young might be obtained from the pair in 1977. This single litter has doubled the U.S. zoo population of *Echinops Telfairi*.

SEA LION SYNOPSIS AVAILABLE

A comprehensive 30 day summary of the activities of the sea lion pup born at the Stone Memorial Zoo is available. The summary includes parental care details of the pup that was born in June. Contact: Mark Crosbie, Senior Zoo Attendant, Stone Memorial Zoo, 149 Pond Street, Stoneham, MA., 02180.

VICTORIA CROWNED PIGEON FLEDGED AT KANSAS CITY ZOO ...by Derek Meyer and
Diane Crawford

For the past few mornings, our breeding pair of Victoria Crowned Pigeons have been inspecting the skeleton remains of their old nest. Hopefully they will repair this nest, originally built five months ago, and repeat the events which resulted in the hatching of a single offspring in the Tropical Habitat Building of the Kansas City Zoo.

The successful hatching and rearing of a young Victoria Crowned Pigeon in indoor captivity is a rare event and this is unfortunate. Our pair was more than generous in providing a magnificent display of their own beauty and the beauty of intense parental cooperation and vigilance.

We received the pair last November, but conflict between them and the two already established Victoria Crowned Pigeons ended in the death of one of the resident birds and the removal of the other.

A suspected infection was treated with Tetracycline in a pan of water placed in the southeast corner of the building, their favorite spot. But we were quite surprised in mid April when they began constructing a nest about 15 feet over a running stream inhabited by waterfowl, African Crowned Cranes, and South American Capybaras. The surprise in this selection was its conspicuous location in the middle of the east side of the building and within five feet from the reach of the hundreds of school children and visitors that pass through the Habitat.

The nest was crude and had to be reinforced but no further intervention was required. The first solitary egg was lost but another was laid about two weeks later (May 9). We estimate it takes about one month incubation and about one month of exhausting efforts to keep a very precocious youngster fed and contained in the nest. Feeding was accomplished by inserting the fledgling's beak into its mother's mouth whereupon she regurgitated the contents of her crop. This method of feeding continued several weeks after the young Crowned Pigeon left its nest on July 7.

The only recorded instance of interspecific competition occurred between a White Crested Laughing Thrush and one of the Crowned Pigeons last February. After the Crowned Pigeons left their nest in early July, a well guarded Thrush nest appeared in a nearby fig tree about the same time the Crowned Pigeon nest was stripped. But this past week the Thrush nest was found destroyed and empty while the adult Crowned Pigeons were booming and pacing about their nest. The fledgling is now independently roaming the Habitat.

RAPTOR CARE AND REHABILITATION, by Dave Garcelon and Gary Bogue, Artwork by Kathy Chapman. Mimeographed, 143 pp. Alexander Lindsay Junior Museum (1901 First Ave., Walnut Creek, Calif., 94596), 1977. \$10.

Drawing from the unique experience of caring for over 1500 disabled and orphaned raptors in a city-funded, suburban rehabilitation clinic, the authors are in the position to provide a wealth of information on every aspect of treating birds of prey in captivity and preparing them for release: diagnosing diseases, administering drugs, bandaging injured limbs or body wounds, providing nutritional and housing needs, maintaining proper hygiene (beak, talon, feet, and feather care), using restraining devices and artificial perches, and training and rehabilitating birds for their return to nature.

Reptile Amphibian potpourri

The Society for the Study of Amphibians and Reptiles is concerned about the need for greater cooperation between zoo herpetologists and the professional herpetological societies. To accomplish that end, the SSAR has established a Liason Committee to receive input from zoo professionals and regional herpetological societies and to provide services which have been neglected in the past. Membership in the SSAR offers the following advantages: a subscription to the quarterly journal entitled JOURNAL OF HERPETOLOGY and the bi-monthly journal HERPETOLOGICAL REVIEW, occasional facsimile reprints of rare out-of-print herpetological publications, an invitation to the annual co-sponsored SSAR-Herpetologist's League Convention and the opportunity to purchase the CATALOGUE OF AMERICAN AMPHIBIANS AND REPTILES AND HERPETOLOGICAL CIRCULARS, a series designed to give basic information to the beginning herpetologist. HERPETOLOGICAL REVIEW is unique insofar as a section is devoted to Herpetological Husbandry, which encompasses captive maintenance, pathology and disease treatments, reproductive biology and other elements. Manuscripts for this section are solicited from zoo herpetologists.

Any suggestions as to how this cooperation might be accomplished and suitable manuscripts dealing with captive maintenance should be forwarded to:

*James B. Murphy
Editor, Herpetological Husbandry
Chairperson, Liason Committee
Department of Herpetology
621 E. Clarendon Drive
Dallas Zoo
Dallas, Texas 75203*

Requests for membership should be directed to:

*Henri Seibert
Department of Zoology
Ohio University
Athens, Ohio 45701*

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We are deeply indebted to the AAZPA Newsletter for allowing us to reprint this section from their "Positions Available" listings. This is a monthly service to us, for you...

ASSISTANT CURATOR OF BIRDS... Will assist curator with administration of department which includes 19 keepers and collection of about 2000+ specimens. Participatory responsibilities include husbandry, records and signing, facility planning, animal logistics, personnel, research and public relations. Need strong background and interest in avian reproduction as master planning for off-display breeding as well as major changes in zoo exhibits has highest priority. Requirements: BS or MS in zoology, biology or related field with 3 years' experience in captive bird husbandry. Salary open. Contact: Personnel Director, Zoological Society of San Diego, P.O. Box 551, San Diego, CA. 92112.

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Great Ape Academic Demonstration

DIVERSED ACTIVITY FOR CHIMPANZEES at Montgomery Zoo by Laura Strickland

Benji, Liza and Sonya, ages 5, 7 and 3 respectively, are given a large armload of willow branches weekly. They have a great time playing with them and making nests. Stripping off the bark and chewing the branches is also an excellent exercise for their teeth and acts as a preventative tooth decay.

EXHIBIT RECONSTRUCTION at Oklahoma City Zoo by Frederick Dittmar

What to do with two - - 21' x 60' ovens? The Oklahoma City Zoo has been faced with this problem for some time in their Mountain Gorilla exhibit. The two outside "pits" are 21'x60', concrete floored with 12' gunnite walls. In the center of each pit is a gym set constructed of 3" oil drilling pipe. Due to the open top box construction the pits act as ovens whenever the sun beats down on them. Neither of the gorillas would venture out between the hours of 10 AM and 7 PM.

Early in July we closed the pits; never to be opened again as M'Kubwa and Josephine knew them. By the end of the first week we had dumped and leveled 60 yards of dirt and soil into each pit. To the gym sets we had laid utility poles, the bottom has 8 - 14' poles, 5' off the ground. The top has 6 - 8' poles 4' above the lower ones. Now the gorillas have two platforms on which to climb and shaded areas to lie under.

To the soil we mixed "Kentucky 31" fescue, corn, millet, sunflower and a box of parakeet seed.

Mid-August saw the opening of the pits again. With an estimated decrease of up to 40degrees F on warm days, our work proved fruitful. Both gorillas can be seen at almost any time of day making use of the pits. On the first day, M'Kubwa investigated the whole of both pits, sat in a misty rain for two hours, inspected and tested the welders work on all the pole braces.

Over the Labor Day weekend the public was tested. Above the pits were 8 - 5x5 glass panels at the public overlook. Three of these were removed. It was noted that monkey chow, sold at the zoo, and corn was thrown in but not in large amounts. Not one non-food item was thrown in. This fact and comments by the public of how they enjoyed more seeing, hearing and feeling closer to the gorillas has prompted us to remove all the panels.

Send comments, ideas or articles for G.A.P. to Fred Dittmar, 511 NW 29th #204, Oklahoma City, OK 73103.....

If you haven't seen the May, 1977 edition of the Verkes Newsletter, by all means, look one up. It's packed full of interesting and timely ape news and events. It also contains photographs of early pioneers in primatology, as well as photos of the apes that were first shown in captivity.

Veterinarians and Keepers.....

by Joseph T. Bielitzki, DVM, MS
Topeka Zoological Park

ABBREVIATIONS IN MEDICINE

The use of the abbreviation in medicine is an archaic practice, hopefully soon to be extinct. However, their use persists and occasionally directions for treatment may contain abbreviations. To avoid confusion and improper treatment the following is a list of the more commonly used abbreviations which tell when, what and how.

Ad lib	freely as wanted	prn	as needed
b.i.d.	twice daily	g.i.d.	four times a day
	with	S	without
cap.	capsule	̄s.i.d.	once a day
h.	hour	tab	tablet
gtt.	drops	t.i.d.	three times a day
o.o.	ophthalmic	g3h	every 3 hours
	ointment		

The following abbreviations are used to indicate how or where to give the drug:

p.o.	orally (by mouth)	I.V.	Intravenously
I.M.	intramuscularly	O.S.	in the left eye
I.P.	Intra peritoneally	O.D.	in the right eye
S.C.	Under the skin	top	topically
	(subcutaneously)		

Lastly these abbreviations tell how much:

gr	grain	mg	milligram
gm	gram	mcy	microgram
c.c.	cubic centimeter=	pkg	package
	milliliter	ml	milliliter
i.u.	international	oz	ounce
	units	pt	pint
kg	kilogram	l	liter

All directions for medications should tell five things:

1. What drug or medication to give
2. How that medication is supplied
3. How much medication is in a given dose
4. How to give it to the patient
5. How often it needs to be given

Hopefully, the abbreviations discussed are only used in situations where all involved personnel are acquainted with the directions. Prescription abbreviations are only useful if everybody can read them and then follow the directions properly. Unfortunately, Latin was used frequently in medical writings in the past so the abbreviations are of Latin phrases. Before ready-made medications, most treatments were quite long and complicated to make up, making abbreviations necessary. Today with newer drugs and mechanization, abbreviations should be used minimally to communicate with zoo employees.

WADDOCK AND HOSPITALITY

by
Tom Goldsberry
Washington Park Zoo
Portland, Oregon

Chester: The Zoo... The Man... The Legend

The story goes that when George Mottershead was only eight years old, he announced one day he would build a zoo. This decision had been made after a visit to a local zoo where the elephant lived in less than desirable conditions and was subjected to ridicule by the public. By 1931 George Mottershead had "his zoo" and today, seventy-five years later, Mr. Mottershead is acknowledged as the patriarch of European zoos.

Mott still makes his rounds each morning, sometimes by automobile, but, in good weather, walking; no small feat for a man of eighty-three and in a zoo that has eleven miles of pathways. He has not had a vacation in over forty-five years that has not included zoos or other animal establishments of one type or another.

The Chester Zoo contains 841 mammals, almost 2,000 birds, 184 reptiles, and many thousands of fish. The original manor, Oakfield, and its seven acres has grown to 550 acres although only 140 acres are utilized. The rest of the acreage is set aside for waterfowl nesting or is designated a "green area" in the interest of environmental protection.

Circumstances were not always so. In the beginning the Chester Zoo met much opposition from city councils and neighboring residents. When it finally dawned on them their zoo was not an ordinary zoo, but a landmark of natural history, the Chester Zoo slowly gained acceptance and grew accordingly. The neighbor's reluctance might have been somewhat justified when you realize that one stretch of the perimeter fencing is directly adjacent to neighboring residences. Not many people in Chester, or anywhere in the world, can sit in their own backyard and watch fifty wallabies bounding by, or stare back at an inquisitive ostrich over the backyard fence.

Innovation has been a way of life at the Chester Zoo. The theme of exhibiting animals as naturally as possible is almost universally accepted now, but in earlier days, the idea of lions or chimpanzees living in anything but cages was heretical. Chester Zoo has never subscribed to the "cake type" diet for felines. Without wishing to get embroiled in that controversy, it's enough to say that there is a certain pristine, almost primeval feeling, to stand amongst eight caged tigers listening to the crunch of the powerful jaws as a slab of ribs is systematically devoured in primordial fashion, that is hard to emulate by any other method.

The twenty-six chimpanzees now exhibited by Chester live on four separate islands each connected by an isthmus leading to the heated quarters. The temperature hovered around the forty degree mark the day Peter Waite, the amiable Curator of Mammals, showed my wife and I around. The chill factor probably reduced it to around twenty-eight. Still, at a couple of "hoots" from Peter all the chimps rushed to the edge of the water to return the greeting. All the chimps had thick shiny coats and obviously had never read the books that said chimps were supposed to be kept under sub-tropical conditions at all times.

Many years before the bottom dropped out of the lion market, Mott and the

Continued

Chester Zoo were one of the largest lion suppliers in the United Kingdom. Over 700 lions have been bred there in the past thirty years. This experience led Mott to yet another innovation: that of allowing male lions to interact with cubs. Many zoos separate the mother and cubs indefinitely or until the cubs are sold. George Mottershead believes that if an animal is social in its wild state then that's the way it should be in a zoo.

Perhaps the biggest compliment to George Mottershead and his Chester Zoo came from Jimmy Chipperfield, the English circus man, entrepreneur, and founder of "Lions of Longleat" the first of the drive through wild animal parks. In his delightful book "My Wild Life", Chipperfield recounts when the grand opening of Longleat, with its fifty lions, was first announced, invitations were sent to all British zoo directors. Opposition to the new drive through concept was running high in the zoo world on the grounds that the new parks were "too commercial". Typically then, that Mott was the only director to accept the invitation and later said that lack of space was the only reason that prevented him from doing the same thing.

And therein lies part of the story of the little boy who one day wanted to build a zoo, but also forged a legend.

Later in Mr.Mottershead's study, I was invited to sign the guest book; a book that included some of the most famous names in the international zoo community. Outside, the raw wind blowing in from the Irish Sea bent the poplars around Oakfield manor almost double. Inside the fireplace crackled while the shadows of the flames softly deepened the rich mahogany of the study. Beneath his portrait, Mr.Mottershead reminisced about the past and talked with enthusiasm about the future. I sipped my coffee and also reminisced--about the past three weeks: the zoos, the people, the hospitality; and I was reminded of the lines from Shakespeare's King Richard II, "... This blessed spot, this earth, this realm, this England...."

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ZOOKEEPER TRAINING PROGRAM

The Crandon Park Zoo, Key Biscayne, Florida, will graduate several individuals from its Zookeeper Training Program in September. The program involves nine months of full time, on-the-job training, as well as 90 hours of classroom lectures and 90 hours of practicals. Further information can be obtained from Vernon N. Kisling, Jr., Crandon Park Zoo, 4000 Crandon Blvd., Key Biscayne, FL., 33149, or by calling (305) 361-2515.

SUCCESS IN RAISING YOUNG OSTRICH...by Mark Jeffers, Kings Dominion

Our ostrich have not laid as many eggs for us this year, 103 for last year as opposed to 71 this year. However, this year we were rewarded to a greater degree in our efforts at incubation and sustaining life of baby ostrich. Last year,...our first attempt in this area... we raised three ostrich past nine months. Two have died since then, both were females. The third, a male, is now in the preserve with the other adult ostrich. The loss of the two females was due to a fall in one instance, and the intake of a foreign object in the other. In neither case were the losses due to the main causes of loss among our newly hatched chicks.

In the majority of instances after incubation, we would assist the chicks in breaking their shell. A number of the baby ostrich, ten, died after a few days, the primary reason being lung infection. This was due to germs entering the shell and being sent to the embryo. This situation was rectified through periodic sterilization of the incubator. The other factor that was considered in premature mortalities, was the overall reproductive health of the adult ostrich. Something could be missing from their diet that would enable the adult ostrich to lay a healthier egg.

The baby ostrich that continued to grow eventually developed leg problems that resulted in death. Various methods were tried last year to rectify this problem, but none were successful. It was obvious to us that the chicks were not receiving important dietary needs to insure proper leg growth. We were not sure if it had to be supplied through the adults before the eggs were laid, or if the young chicks could utilize it if given to them.

The ostrich raised from last year were given ratite starter. The ones that developed leg problems were not. We hoped this would be part of our answer and it was. We refined the feed to offer a food consistency similar to a pulverized hard boiled egg. Hard boiled eggs were also mixed with the ratite starter. This "feed" was given twice a day in measured amounts. The growth of each chick was measured daily to monitor stability. Any sudden weight gain was too much for the young legs to hold up and often caused the legs to angle out away from the body at the hip joint.

Our other answer was exercise on dry soil. Baby ostrich love to run and peck the ground. Both are essential for health. Young legs are better able to keep up with body growth by staying in shape. Pecking allows them the chance to obtain needed items to maintain stomach order and digestion.

We have eight baby ostrich ranging in age from 1½ months to 2½ months, all doing well. One of the eldest developed stiff knee joints due to a rapid weight gain (3 lbs. in two days). His daily intake was cut back, and this improved his leg movements. Of the eight, all but two were hatched on the same day, which has been a helpful factor in observing growth patterns.

We now hope as the ostrich continue to grow that we have obtained some answers and success in our efforts to raise ostrich.

USDA Proposes Standards for Care of Marine Animals

Standards for humane handling, care and treatment of captive marine mammals are being proposed by the U.S. Department of Agriculture (USDA).

Named in the proposal are: Cetaceans (Whales, porpoises and dolphins), pinnipeds (seals, sea lions, and walruses), sirenians (the dugong and the Manatee), polar bears and sea otters.

The standards were developed by USDA's Animal and Plant Health Inspection Service (APHIS) under authority of the Animal Welfare Act. The standards were based on recommendations made by the Federal Marine Mammal Commission. They parallel standards already in effect for other warmblooded mammals regulated under the Act.

Several standards concern facilities: Construction and maintenance; structure and design of tanks, pools and partitions; and space and facilities for the animals.

Other standards deal with the environment; Water and power supply; ventilation and drainage; waste disposal and sanitation; indoor lighting and temperature; sanitation and housekeeping; veterinary care and pest control; and water quality--bacteria count, salinity, pH level and water exchange.

Also proposed are standards for animal handling: Animal care and treatment; identification and recordkeeping; and transportation and time in transit.

Emphasis is also placed on food quality, food storage and feeding techniques.

The proposal was published in the August 19 Federal Register. Comments from the public should be sent by October 18 to: deputy administrator, Veterinary Services, APHIS, USDA, 6505 Belcrest Road, Hyattsville, Md. 20782.

TOURISM AND WILDLIFE PRODUCTS *by Donald A. Rolla*

As the safari season approaches, it should be remembered that the tourist trade in wildlife products is one of the reasons for the decline of many species. As individuals concerned about the continued survival of the world's irreplaceable wildlife, we should refrain from purchasing trinkets and souvenirs produced from wildlife.

Only if the economic incentive is removed for the current massive slaughter of many endangered and non-endangered species will this reason for the decline be eliminated. As you know, often an animal is killed solely for those parts which are valuable in the tourist market (teeth, claws, tails, etc.), and the remainder of the animal is left to rot on the plain.

This senseless waste of a valuable and beautiful natural resource must end, and only the informed and concerned traveler has the ability to stop it. There are many fine souvenirs which are not made from animal products that can be purchased, and although they are unique to the country in which they were obtained, their purchase does not add to the decline of the areas wildlife. Please be a concerned shopper in your travels, and alert your non-zoo friends to do likewise.

SUCCESSFUL REINTRODUCTION by Marcia A. Rohrer, Oklahoma City Zoo

One of the major problems in raising animals in a nursery situation is preventing them from becoming so imprinted on humans that they are unable to return to their original exhibit as normal, reproducing individuals. This is especially a problem with hand-reared primates. The following procedure was used successfully with an Abyssinian Black and White Colobus monkey *Colobus guereza* that was raised in a nursery and then returned to the exhibit in which it was born.

A female Black and White Colobus was born in the Children's Zoo on February 22, 1977. At this time the colobus group consisted of one adult male and four adult females, each with one infant. On March 16, 1977, the male died and fighting broke out between the females. Observations showed that the infant mentioned above was becoming weak and after she was dropped twice it was decided to take her to the nursery for hand-rearing. While in the nursery the colobus was fed "Similac with Iron" infant formula at two hour intervals.

After the colobus had been in the nursery for one month and had returned to good health, we initiated our reintroduction program. A wire cage (3'x3'x2') with branches for climbing was attached to the chain link of the outside of the colobus exhibit. The infant was placed in this cage for increasing periods of time. After one month she was spending two hours in this cage in both the morning and afternoon.

In order to provide more contact with the colobus group, the cage was moved to the inside of the exhibit and attached approximately six feet above the ground. Since the females often became agitated when the young colobus was removed, an opening was made in the side of the exhibit which made it unnecessary for keepers to enter the exhibit itself when transferring the infant. She was left in her cage from 9:30 am to 2:30 pm. At this time bottle feedings had been reduced to four-day and solid food was being introduced.

After three weeks another cage of the same size and design was added to the inside sleeping quarters of the colobus exhibit. The infant was placed in this cage at night and in her outside cage from 9:00 am to 4:00 pm, thus providing 24-hour contact with the adult group. Bottle feedings were reduced to two-day and solid food was available at all times. We followed this procedure for an additional six weeks.

The next step was to leave the young colobus in her outside cage 24 hours, weather permitting. Since the adults sleep outside during the summer we wanted the infant to adjust to sleeping outside also. She was fed only solid food at this time, and her weight was taken frequently to make sure she was still gaining weight.

On August 2, 1977, the infant was released into the exhibit. The group at this time consisted of three adult females, two of which had offspring, and the infant's mother. The infant was grabbed immediately by the dominant female. The other females showed a great deal of interest in the newcomer, but there was no fighting among the group. The infant's mother made no real attempt to take her away from the dominant female. After two days the other two females were observed holding the infant for short periods of time and she was observed eating by herself, several feet away from the dominant female.

One month after her introduction, the young colobus was still spending most of her time with the dominant female, but seemed to be adjusting

continued

very well to her new surroundings. It remains to be seen if she will adjust completely and reproduce eventually, but at this point it seems quite likely. By using a gradual reintroduction procedure, which in this case lasted over four months, we were able to return a hand-reared animal to its original exhibit and have it accepted into the established group with a minimum of stress to all animals involved.

WILL IT EVER END? WE HOPE NOT! A HEARTY BEAR-HUG AND A SMILE FOR THE NEWEST IN AAZK'S GROWING LIST OF CHAPTERS. FOR INFORMATION ON CREATING AN AAZK CHAPTER AT YOUR ZOO, AWUARIUM OR PARK, CONTACT: DENNIS GRIMM, CHAPTER COORDINATOR, BROOKFIELD ZOO, BROOKFIELD, ILLINOIS...60513

The Dickerson Park AAZK chapter has recently been formed and have elected officers:

President	Paul M. Price
Vice-President	Mike Crocker
Secretary	Pam Fritsch
Treasurer	Jim Hogue

news

Their address is:
chapter

Dickerson Park Zoo
3043 North Fort,
Springfield, Missouri 65803

These keepers have a great deal of support for AAZK and will be further organizing their chapter in the future.

MEMBERSHIP INFORMATION

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Deadline for each edition of AKF is the 20th of the preceding month

SCOOPS and SCUTTLEBUTT

PORTLAND KEEPER ATTACKED by Kit Lewis, Washington Park Zoo, Portland, OR.

It seems to be a bad year in the elephant barn at Washington Park Zoo, (Portland, Oregon). It's only been 8 months since Roger Henneous' accident with the cows in February (see AKF, Feb., 1977).

This time it was Bill Wadman, regular elephant keeper and member of the Portland Chapter AAZK, and the 15-year-old bull elephant "Pachy".

Apparently nobody knows exactly what happened. Bill was alone in the area close to Pachy's room. Somehow Pachy grabbed Bill's right arm with his trunk and pulled it through the vertical bars above the hay manger (4" diameter, 4" apart). Then Pachy leaned heavily against Bill's arm, crushing it against the bars. Bill yelled, and Mike Keele, regular elephant keeper, and President of Portland Chapter of AAZK, came running. He had been working in another room in the elephant barn at the time. The commotion caused Pachy to release Bill's arm.

Bill was rushed to St. Vincent Hospital in Portland. Diagnosis initially was a compound fracture of both the radius and ulna; later it was found that the bones were crushed. Bill is still in the hospital, undergoing a series of surgeries. It is unknown how long he must stay in the hospital and how long he must convalesce is also still in question.

Cards and letters can be sent to Bill, care of Washington Park Zoo, 4001 SW Canyon Road, Portland, OR, 97221.

ELEPHANT GRABS KEEPER IN SPRINGFIELD, MISSOURI

Linda Stearns, 22, a keeper at the Dickerson Park Zoo was attacked by an elephant on Tuesday, October 18. She suffered a dislocated shoulder.

According to Chris LaRue, general curator, Ms. Stearns was standing near the bars of the elephant enclosure when the animal grabbed her wrist and pulled her through the bars. The elephant, a 27 year-old female named "Minnie", then picked up Ms. Stearns and threw her down several times before throwing her through some doors into the outside elephant yard. Ms. Stearns has been a relief keeper at the zoo for six months.

KEEPER HURT IN MADISON, WISCONSIN

Debra Clarke, 24, a keeper at the Henry Vilas Park Zoo is recovering from a broken back after being attacked by an elephant on September 28.

According to zoo director Elvie Nelson, Ms. Clarke had been training with the elephants for five days. While her training keeper was in another building, she entered the elephant's enclosure without benefit of ankus or food. The elephant knocked her down and into a gutter. Fortunately, Ms. Clarke suffers no paralysis.

DULUTH KEEPER RECOVERING

Judy Boeltz, 22, a keeper at the zoo in Duluth, Minnesota, is recovering from a polar bear attack. The attack occurred Friday, October 14. Ms. Boeltz suffered bites to her neck, a punctured trachea, numerous lacerations to her arms and legs and over 100 puncture wounds.

According to Basil Norton, zoo director, the attack occurred when Ms. Boeltz entered a denning area to turn off a water valve. She inadvertently walked into an occupied den, and was attacked. Her screams alerted Ray Washburn, another keeper in the area. He attempted to beat the bear back with a pipe, and is credited with giving Ray Walston, zoo manager, time to retrieve a rifle. The bear then dragged Ms. Boeltz to an outside den, where he was shot and killed by Mr. Walston.

Cards and letters may be sent to Ms. Boeltz, care of the Duluth Zoo.



BIRTHS HATCHINGS

TWIN ORANGS BORN AT SAN DIEGO ZOO

Twin orangutans were born at the San Diego Zoo on September 25. The event is the first multiple birth among great apes at the San Diego Zoo and the seventh instance of orangutan twins in captivity.

The infants, a male and a female, were born to Mary Fred, an 11-year-old Bornean orang. The pregnancy was her first. The father is Otis, a 12-year-old Sumatran orang. The delivery was uncomplicated.

After five hours, the twins were removed for hand-rearing in the Children's Zoo nursery. Mary Fred at first appeared able to care for both youngsters, but as the afternoon progressed it became questionable whether she could continue without assistance.

WHOOPING CRANE ON BREEDING LOAN by Anne Marie Orłowski, Asst. Curator of Birds, Audubon Park & Zoological Garden

Both Audubon Park Zoo and the International Crane Foundation (ICF) in Wisconsin, are interested in the preservation and propagation of the whooping crane *Grus americanus*. On September 14, a single male whooping crane, on display at Audubon Park Zoo for 20 years, went out on a 3 year renewable breeding loan to the ICF.

There are presently 24 whooping cranes in captivity, at Pautuxet Wildlife Research Center, the ICF, and San Antonio Zoo. In the wild, whooping cranes reached record numbers this year with 66 birds arriving at Aransas Wildlife Refuge in Texas. This is the largest number of the endangered birds since 1938. There are 7 additional whooping cranes in New Mexico accompanying their sandhill crane foster parents. The sandhills hatched whooping crane eggs which had been transplanted into their nests.

The first female whooping crane hatched at ICF as a result of the breeding loan will be made available to Audubon Park Zoo for breeding purposes.

INTERNATIONAL CO-ORDINATOR REPORT by Tom Goldsberry, AAZK International
Coordinator, Washington Park Zoo,
Portland

The AAZK has made much progress in the field of international relations during 1977. With the assistance of Jon Barzdo, and our British counterpart, The Association of British Wild Animal Keepers (ABWAK), we now have the nucleus of a program that we hope will eventually serve as a clearinghouse of keeper information throughout the world.

Presently we are communicating with individual keepers or keeper organizations in Canada, England, Australia, New Zealand, and Abu Dhabi, United Arab Emirates.

This is not a simple program. Correspondence is often slow, time-consuming, and goals and objectives are often hard to agree upon. Problems of the American keeper are not always the problems of, for instance, the Australian keeper. In some instances problems are sharply defined; in others the reverse is true.

Earlier in the year the feasibility of keeper exchange was discussed. Because of the language problems it was thought best to first contact keepers in English-speaking countries only. It now appears that keepers in the British Commonwealth are far ahead of us regarding keeper exchange due in part, no doubt, to easier passport restrictions and traditional ties. British keeper exchange is carried out on a regular basis, with periods of often 18-24 months duration.

When it became obvious that the AAZK was not in a position to solve all of the logistical problems of such a program, such as transportation, pay schedules, length of stay, etc., the emphasis was shifted from "exchange" to one of "accommodation." Briefly, this would mean that when a foreign keeper visited this country, or vice-versa, the host organization would arrange for room and board in the homes of keepers as near as possible to the zoo of choice of the visiting keeper.

This plan would serve two important functions: it would allow more personal contact between keepers, and it would save money for the visiting keeper.

Now, I don't know how many of you are planning to visit beautiful, downtown Abu Dhabi next summer, but it's schemes such as these that will add a new dimension to the zoo-keeping profession.

Meanwhile, until we get our first customer, the names and addresses of all of those who responded to the "exchange" program will be kept on file and new participants will be most welcome.

INFORMATION PLEASE

I am trying to compile information for a project on "The Ecology of the Agouti". I would like to compare my observations on the behavior of agoutis at the Philadelphia Zoological Gardens with those from other zoos and also with the behavior of agoutis in the wild. I would like the help of AKF readers to share their knowledge and experience on this subject. Please address correspondence to James McKeon, 576 General Muhlenberg Rd., King of Prussia, PA. 19406.

Reptile Amphibian potpourri

REPRODUCTION IN THE REPTILE HOUSE AT WOODLAND PARK ZOO

1977

by

Ernie Wagner and Frank Slavens
Woodland Park Zoo
Seattle

Woodland Park Zoo does not have a particularly large reptile collection compared to some of the other collections in the U.S. We have 30 small display cages about 3 feet square, 4 walk-in cages about 6 by 10 feet and half a dozen large grottos for turtles, crocodilians and our bog display.

We hold very few animals off display and counting lizards loose in various parts of the building we have about 268 specimens, representing 27 families of amphibians and reptiles.

We are very active in trying to reproduce the animals we do maintain, and our collection is very stable, changing little from year to year in terms of new species added.

The following is a brief outline of the reproduction which has occurred in our collection this year.

Species	Eggs laid	Hatched	Still Incubating
<i>Python m. bivittatus</i>	46	16	0
<i>Drymarchon c. couperi</i>	5	0	0
<i>Lampropeltis zonata</i>	15(2 clutches)	4	0
<i>Lampropeltis g. floridana</i>	21(2 clutches)	11	7
<i>Pituophis m. catenifer</i>	15(2 clutches)	11	0
<i>Lampropeltis m. alterna</i>	22(3 clutches)	10	8
<i>Lampropeltis g. californiae</i>	4	3	0
<i>Lampropeltis t. sinaloae</i>	7		7
<i>Gekko gekko</i>	10		10
<i>Ptychozoon horsfeldi</i>	4		4
<i>Hemitherconyx caudicinctus</i>	21	4	2
<i>Sauromalus obesus</i>	22(2 clutches)		0
<i>Eublepharis macularius</i>	69	26	22
<i>Osteolaemus tetraspis</i>	16	3	0
<i>Clemmys m. marmorata</i>	22(4 clutches)		22
<i>Testudo hermani</i>	4		4
<i>Dendrobates auratus</i>	6 clutches laid	10 tadpoles	0

We now have third generation leopard geckos and second generation Blairs and Florida kings. There remain animals in the collection which are not reproducing which we expect to induce in the future. Most of the animals listed above are reproducing for us on a regular annual basis. We did not obtain *Heloderma* eggs this year and are trying to correct this problem through vitamin therapy.

ADDENDUM: Ernie sent us the following items just before press time...

9/22/77 *Epicrates striatus*...14 stillborn, 1 alive

9/27/77 *Osteopeltus dominicanus*...Dominican Tree Frog, 1 clutch of several hundred eggs

10/1/77 *Epicrates striatus*...12 born, all healthy.

Direct all comments to RAP, Division of Reptiles and Amphibians,
National Zoological Park, Washington, D.C. 20008

RARE BIRDS IN QUARANTINE AT SAN DIEGO WILD ANIMAL PARK

A group of ten Tahiti blue lories, a very rare bird found only on a few islands in the South Pacific, now is in quarantine at the San Diego Wild Animal Park after being confiscated in Los Angeles by United States Customs agents.

The birds were smuggled into the United States in early October, and were turned over to the Wild Animal Park for safekeeping.

On October 13, the Park's general curator, Dr. James Dolan, was informed that there was a possibility that agents from the United States Department of Agriculture intended to kill the birds. Federal law requires that all birds smuggled into the United States be terminated to prevent the spread of disease.

Dr. Dolan said, "Tahiti blue lories are so rare that there is a very real threat that they will be extinct in a matter of a few years. The group at the Wild Animal Park appears healthy and we are keeping them in strict quarantine so I hope the USDA will make an exception to the rule and allow them to remain here."

When it was learned USDA agents intended to terminate the birds, Dr. Dolan informed officials of the American Association of Zoological Parks and Aquariums, the American Federation of Aviculture and bird experts in zoos across the United States. Late that same day, the U.S. Attorney's General's office issued a stop order to prevent USDA action on the lories at the Wild Animal Park.

ONE OF RAREST MAMMALS SIGHTED IN TASMANIA

One of the world's rarest animals ... a Tasmanian wolf ... has been sighted in northwestern Tasmania.

Two policemen saw the animal while on patrol near the town of Derby. Dr. Eric Guiler, of the University of Tasmania confirmed their description.

The wolf, *Thylacinus cynocephalus*, is the largest carnivorous marsupial. The last known living specimen died in 1930. Since then, an expedition found a dead specimen in 1961. That was the last confirmed evidence of their existence until this sighting.

Ed. Note: The Thylacinus is the symbol of AAZK's sister organization in Australia, the Australasian Society for Animal Management.

ZOO WELCOMES NEW FLAMINGOS

The Philadelphia Zoo recently received 30 Lesser Flamingos from Kenya, Africa. They are exhibited in Phase II of the African Plains Exhibit.

Eleven of the colorful birds were purchased with funds donated by several companies: McDonald's Operators Association of Southeastern Pennsylvania, Southern New Jersey, and Delaware (6); the Golden Slipper Club (1); Electric Factory Concerts (1), and the Freda Corporation of Philadelphia, (1).

The Zoo lost 10 Greater Flamingos last spring when they were attacked by young vandals.

Great Ape Demonium

INEXPENSIVE RECREATIONAL OPPORTUNITIES FOR A GORILLA... *by Carol Glick, Pittsburgh Zoo*

Our gorilla exhibit is by no means elaborate or spacious. The indoor quarters are about 16' long x 9' wide x 10' high. Housed in this exhibit is a single male lowland gorilla, George, who is thirteen years old.

George only has one bad habit...regurgitating and reingesting food items. From my observations, I've concluded that he does it because he likes to. I've seend him play really hard, stop for a moment, casually cup his hand under his mouth, bring something up, reingest and resume play. When given a novelty item such as raisins or peanuts he'll recycle them more than his normal meal, as if to resavor it's palatable delights. This activity does not suggest stress behavior. Perhaps the behavior simply compensates for the animals natural continuous foraging done in the wilds.

We've tried to overcome this behavior by the recreational options which we provide for our gorilla which are by no means elaborate, costly or inaccessible to the zoological garden.

Heavy duty rubber objects are ideal for gorillas. Tires of various dimensions are favorably welcomed by my charge. We have one tire suspended from a chain and tires that can be rolled, thrown or sat upon. Our latest acquisition was a heavy duty equipment tire. George often sinks his bottom into the hole and, like royalty, props his arms and feet around the edges.

Discarded robber hoses, about two inches in diameter and of various lengths can be salvaged. They entertain for hours as whips, hammers, and nest building material, as he tucks them under his body. He also balances them on his shoulders, or twirls them between his feet while lying on his back. He's even been known to initiate a game of tug-of-war. Weaving them between the bars is another favorite past time. Rubber feed tubs are used as "turtle shells, hats, chairs and bath-tubs". When hosing his cage he often skids across the wet floor while slapping his chest or other parts of his body. Filling his tub with water George marches in it, and slaps his hands and feet together. The only problem here is that George believes in audience participation and we often become saturated.

Another object of joy is a big log. It is 1.5' in diameter and six to seven feet long. One end of the log has blunt arms on it so that George has no trouble rocking the whole log. It also provides a perch on which he can sit looking at the scenery over and beyond the spectators heads.

Maple branches, straw, excelsior or burlap sacks, preferably big enough to plunge his whole torso into and sometimes stacked with a peanut surprise at the bottom, bring unmeasurable happiness to George.

Send comments, ideas or articles for G.A.P. to Fred Dittmar, 511 NW 29th #204, Oklahoma City, OK 73103...

LINCOLN PARK ZOO REPTILE COLLECTING TRIP by *Pat Sammarco, Lincoln Park Zoo, Chicago*

Annually, budget permitting, Lincoln Park Zoo sends the Curator of Reptiles and a few keepers on a field trip to collect reptiles, etc., for the collection, with the overall purpose of giving them some invaluable field experience. Trips have been to the Trans-Pecos area of Texas, Southern Illinois, Florida, and this year, to the area around Tucson, Arizona. The team included Ed Almandarz, Curator of Reptiles, Steve Russel and Chuck Hill, keepers in the Reptile House, and me, formerly in the RH, but now a night keeper.

We left on August 29, in the zoo's Ford van, packed with tools, bags, crates, canteens, head lamps, snake boots, and all sorts of miscellanea. We drove about 500 miles per day, sharing the wheel and motelling at night. We stopped in zoo towns, but didn't get much, if any, time to visit. We thank the Dickerson Park group for the Waterhole Monday night and the breakfast tour of the Zoo Tuesday morning. (Dickerson Park Zoo, Springfield, Mo., has some great bumper stickers to raise funds for an Eagle project -- "I love Zoo", Zoo your thing" and "Up your Zoo".)

Arriving in Tucson, we made our temporary home in a motel, and hunted, mostly in the early morning and late night, although we captured some lizards in the midday heat, nearly 100 degrees. The desert was in bloom and beautiful during the day, but almost magical at night. For night hunting we used head lamps, worn with an elastic band on our foreheads and connected to a belt-worn battery. This setup allowed us light wherever we turned our heads to look. Spiders, at night, in light, appear as diamonds, their eyes throwing back a sparkle. Snakes glisten, and are supposed to be even more apparent under black light.

We worked in pairs, turning over rocks and dung, looking in Mesquite for climbing animals, and watching out for Jumping Cholla, a cactus tree that jumps out to get you when you get too close. We carried snake bags, bottles, snake hooks and tongs in the field, and also did some road hunting from the van, watching for animals to come to the road for warmth at night.

Thanks to various old and new friends, the crew at the Tucson/Sonora Desert Museum, and the Rangers at the Coronado National Forest and a Naturalist at the Brown Canyon Sanctuary, our trip was successful in the capture of almost a hundred specimens, including various snakes, lizards, toads, scorpion, tarantula, spiders, centipedes, et al, and the accumulation of field experience for the four of us.

Thanks to the Randolph Park Zoo bunch for the tour and talk.



RESULTS OF **ELECTION 77** from Jill Grade

A total of 284 members voted. The nominees were Carole Udell, Patricia Sammarco, Pat Sass, Dennis Grimm, Jeff Roberts, Tom Goldsberry.

Dennis Grimm and Tom Goldsberry are the winners and will be taking over their new positions in December, replacing Mike Dee and Pat Sass as members of the Board of Directors of the American Association of Zoo Keepers. Congratulations!!!

BABY ORANG INTRODUCED...*Brookfield Zoo*

There is a new baby orangutan at Brookfield Zoo. Robin, 1½ years old, arrived this week from St. Paul, Minnesota's Como Zoo, and has been introduced to three of Brookfield's orangutans: Connie, 17 years, Ronald 3½ years, and Hahna, 4½ years old and Robin's full sister.

The new resident at Brookfield's Primate House is adjusting well to his foster home, according to Dr. Ben Beck, the zoo's Curator of Primates. He cited Connie's maternal behavior on behalf of the new orangutan, helping Robin around the primate enclosure and allowing the baby to cling to her.

Robin was brought to Brookfield Zoo Tuesday by Como Zoo Director John Fletcher who is hoping to again breed Robin's mother, Ginger, who is on breeding loan from Brookfield, to Como's lone male, Yogi. Robin thus had to be weaned (this can be done with oranges as young as 15 months). The little orang, who weighs about 25 pounds and stands approximately one foot at the shoulder, will grow to over 300 pounds, a shoulder height of 3-3½ feet, and an estimated 35 years of age. He is the third offspring of Ginger and Yogi. Their first baby, Hahna, who has been at Brookfield Zoo nearly all of her 4½ years, has also taken to Robin, and keepers say she and young Ronald had been seen at play with the baby orang already.

LONG-TIME ZOO KEEPER RETIRES *by Dan Watson, Executive Director, Abilene Zoological Gardens, Abilene, Texas*

Zoo keeper, Carroll Dennis, retires as zoo keeper of Abilene Zoo at the end of November after 33 years in this position.

Before the zoo was moved to its new location in Nelson Park in 1966, Keeper Dennis was the chief and only zoo keeper at the Fair Park location caring for a retired-trained Chimpanzee, Lions, Bison and Rhesus Monkeys. His dedication to his charges and his contagious spirit of cooperation has been an invaluable asset to the Abilene Zoo.

Keeper Dennis is being honored by the Abilene Zoological Society for his contributions to the zoo, since under the new arrangement the Zoological Society operates the zoo for the City of Abilene.

The dedication of Keeper Dennis should be an inspiration to us all, and we wish him well for his retirement.

chapter

from Jim Biesinger, Santa Fe Teaching Zoo Chapter

At the last meeting of the Santa Fe Chapter of the AAZK we elected new officers and made plans for a newsletter. Elected were: Jim Biesinger, president; David Ames, vice-president and Terri Bohara, secretary-treasurer.

news

We hope that our newsletter will be of interest not only to students and staff at our zoo, but also to the staffs of other zoos. Anyone interested in receiving copies regularly should contact: AAZK Chapter, Santa Fe Community College Teaching Zoo, Gainesville, FL 32602.

BLACKBUCK
BY
Mark Jeffers
Kings Dominion

On the evening of January 26, an adult female Blackbuck *Antelope cervicapra* was observed some distance away from the Blackbuck herd. From her behavior, there was a good possibility that she had just delivered a baby.

On investigating the area the fawn was found partially frozen to the ground. Doubtful that the new baby would be able to make it through the night, it was "pulled" and taken to the nursery.

The following day the young female was started on goat's milk. During the first few days, she was fed every four hours. One or two ounces was all she would consume in her first feedings. By the third day she was consuming 20 ounces. By the end of her second week she was on three feedings a day, eight ounces per feeding. She never accepted a bottle readily so she was fed from a tube with a 60cc syringe attached to it.

On her fourth day she was started on ampicillin, 1 cc twice a day, orally. This was a precautionary measure prompted by her fluctuating temperature (102°-105°) and loose stools.

During her first month "Betty" was taken home every night by the person feeding her. She was then left at the nursery at night with other babies - pygmy goats, mouflon, and waterbuck. During the day she was given the freedom of the nursery.

When spring finally arrived she was put outside in the petting zoo for exercise with some of the other animals. We began talking about re-introducing her into the preserve in April, but it was not until the first of June that it was actually done. At this time she was still receiving milk, plus an assortment of other foods from grapes to french fries.

Betty was brought to the hospital to be reintroduced to the preserve. She stopped receiving milk at this point and was put on grain and grapes with access to the grass in the preserve. The first few days she stayed by the gate that connected the hospital to the preserve. By the fifth day, Betty was discovered by some young males. Gradually, she began to increase her knowledge of her surroundings. In the evening she could be seen grazing with a few of the other Blackbuck.

During this time she would return to the gate to be fed twice a day. Each day her feeding spot was moved further from the gate and closer to the road where the other animals fed. One evening she did not appear for her evening meal so these were stopped. Three days later, morning feedings were stopped. She did return to the hospital gate on several occasions, but was not fed.

From this point on she quickly made an association about who was now going to be her feeder. The section person was adopted within three days. Once the section truck entered the area she would be close behind it looking for food. Betty became much more tolerant of people on a whole in the section in contrast to the nursery.

On the seventh of May, our resilient veterinarian Dr. Robert Barton performed a Caesarian Section on a pregnant female Blackbuck. The female had received a blow in the head three days earlier. This resulted in the subsequent loss of her equilibrium. The stress associated with this, her pregnancy and the moving of her to the hospital was too much for her to overcome. Various intravenous feedings were given to her (500cc 5% Dextrose in Lactated Ringers) to help her overcome the shock, including a solution of Sodium Bicarbonate. For two days she looked strong and responsive. The third day found her loosing strength, and although she was given more intravenous feedings she could not regain her strength.

She was checked around 8:00 PM the same night. Her condition had deteriorated to the point that it was obvious she would not make it through the night. Dr. Bartor was informed of the situation.

An hour later the operation was performed. The female was injected with CI-744 and the fawn was delivered. The female was then euthanized. In a matter of seconds from the time the fawn was cut from the mother, we were massaging it down with towels to stimulate breathing and circulation. A couple of drops of Dopram was applied under the tongue to stimulate breathing. After about two minutes the fawn began to expel the fluid in its lungs, and within ten minutes it was sitting up and shaking its head, breathing successfully on its own.

The little male took to the nursing bottle that night under the care of Dr. Barton. For about three weeks the baby, named "Pepe" stayed with Dr. Barton and his wife Joy. Pepe was started on fluids much the same way Betty was, except for his taking the bottle the same night of his birth and the substitution of cows milk for goats milk.

About the time Betty was being released in the section, Pepe was brought into the LCS hospital. At this time he was taking 12 ounces at each feeding, three times a day. For the first two weeks at the hospital one person was responsible for his feedings. Pepe had no problem acclimating himself to the holding pen. He accepted his feedings with little prompting. It was necessary to insert the nipple into his mouth occasionally to begin the feeding. It was never a necessity to restrain him or in any way force him to be cooperative. He would always allow hands to touch him, but he was not fond of being restrained.

About a week after Pepe was brought to the hospital, another Blackbuck baby, a female, was pulled from the section after she had caught herself in some fencing around the rhino holding pen. She was approximately two days old. Even at this early age, behavior patterns of the Blackbuck herd had begun to be instilled in her. Introducing her to a bottle was a struggle.

One person again tended to her feedings. The first six days she was fed eight ounces a day three times a day. This was due to the fact that she had been with her mother for a few days. The attempts made at introducing her to a bottle were unsuccessful in the first six days. As a result, she was tube fed on cows milk. Care was taken to make sure that she swallowed the fluids the way she normally would if she were drinking from her mother. Most of the time she would sit for the first half of her feedings. This was due to the hiding posture taken when approached. After consuming about four ounces of the fluids she would become restless and want to leave. Restraint was applied to ensure she drank the remainder of her solution.

Continued

The practice of restraining her to eat was not a desirable one. Each of her feedings began with an attempt to have her take a bottle. The right formula and nipple was found on the sixth day. A mixture of $\frac{1}{2}$ cows milk and $\frac{1}{2}$ goats milk with a playtex nipple and bottle was acceptable to her. Also by this time she had been given the name "Sylvia."

With the discovery of this formula the necessity for restraint ended. For the most part Sylvia would follow Pepe's lead at feeding time. Pepe would take his bottle and Sylvia would search him for a nipple to suckle. Both would punch the nipples of the bottle with their muzzles as they would have done to their mother's milk sac. Pepe was such an aggressive sucker that he would often pull the nipple off the bottle, drenching himself and the feeder with warm milk.

As the two blackbucks grew, Pepe's consumption increased to around 40 ounces a day; Sylvia's to around 32. His horns began to appear in mid-July, and with these a taste for hay, grain, and grass. His weaning began slowly by decreasing his milk intake while offering him hay, grain and grass to eat.

It was hoped that Sylvia could be kept on the bottle a while longer. After being fed by one person for two and a half weeks, she was introduced to other feeders. Her behavior became erratic at feeding times to where she would not follow Pepe, she would refuse the bottle, and she would consume only a few ounces of milk. Her primary feeder would then attempt to feed her. She would come to him, following Pepe, but would have to be caught and held until the bottle was inserted in her mouth. Then she would stand and drink by herself. However, it became increasingly harder to catch her at feeding time. Sylvia took to rebounding off fencing when it came time to catch her for feeding. It was obvious that this could not continue so Sylvia was weaned along with Pepe.



A KEEPER'S VIEW OF THE AAZPA MANAGEMENT SCHOOL by Pat Sammarco, Lincoln
Park Zoo. Chicago

Last February, Larry Sammarco and I were among the 90 or so students at the AAZPA Zoo Management School, and we will attend our second and final session this coming February 5-9 in Wheeling, W.V. Even with only one-half of the course completed, we feel that it is to be recommended to anyone seriously interested in the total operation of Zoos, and especially to those aspiring to management positions.

You won't feel out of place. In our group there were three Keepers, and another graduating as a second-year student. Everyone at the school is a student, swapping experience and theory, without the usual formality of rank. We keepers were often sounding boards for ideas, and the acknowledged experts in areas of zoo management in the lower levels unknown, or in the distant pasts, of the higher ranking staff.

The course is intensive; the days full of classroom sessions, optional discussions, and the comraderie of rap sessions that remind a keeper of a "waterhole." The satisfying educational experience and the fraternal contact with fellow professionals, back-lighted by the beautiful setting, facilities and hospitality at Oglebay Park are definitely to be recommended.

PORTLAND CHAPTER INVOLVED by Kit Lewis, Secretary

The Portland Chapter of AAZK is becoming deeply involved in the Admiralty Island logging controversy, and urges other chapters to do the same.

The U.S. Forest Service wants to begin massive logging operations on Admiralty Island in southeastern Alaska. This would seriously threaten:

--5,000 to 6,000 endangered American bald eagles; Admiralty Island alone contains half of America's bald eagles.

--1,000 bald eagle nests, over half of which are currently active.

--the survival of the Shiras brown grizzly bear; a separate species found only on Admiralty.

--the lifestyle of the Tlingit Indians; their cultural survival is dependent upon fishing lands surrounding the village of Angoon (population 500). Logging would disrupt the delicate balance necessary for successful spawning.

Detailed descriptions of all sides to the issue can be obtained by purchasing a copy of *ALASKA GEOGRAPHIC* (Vol. 1, No. 3, Summer 1973) from Alaska Northwest Publishing Co., Box 4-EEE, Anchorage, Alaska, 99509.

For reasons of animal and land conservation, the Portland Chapter of AAZK opposes logging plans, and supports the congressional passage of the D-2 Lands Bill (introduced by Stew Udall, former Secretary of the Interior). This bill would re-designate many areas of Alaska into wilderness preserves and parks. It would place all of Admiralty Island under the "wilderness preserve" classification; thus protecting the bald eagles, their nests, the Shiras grizzly, and the native Indian culture from the serious damage that could be caused by the U.S. Forest Service logging operations.

The Portland Chapter of AAZK is sending letters in support of the D-2 Lands Bill to Oregon's Senators and Congressmen, Cecil B. Andrus and President Carter. With these letters, we are sending a condensed version of the *ALASKA GEOGRAPHIC* article as reference material. The debate regarding the logging of Admiralty Island has been in contention for decades, but the final decision will be made this time around. The bill is in Congress.

We urge all members to support the D-2 Lands Bill by writing supportive letters to their state Senators and Congressmen; to Cecil B. Andrus and to President Carter.

Help protect these vital species; remember--keepers care.

A good reference for the use of drugs in raptor treatment, should the injury require it, is *Avian Drugs and Dosages*, by Chuck Galvin, D.V.M., obtainable for \$3.50 from the Wildlife Rehabilitation Council, Aquatic Park, Berkeley, Calif. 94700.

We are deeply indebted to the AAZPA Newsletter for allowing us to reprint portions of this section from their "Positions Available" listings. This is a monthly service to us, for you.

ASSISTANT ZOO DIRECTOR... to assist the Director with the administration and total operation of a medium-sized zoological park. Duties include supervision and scheduling of personnel, daily inspection of animal collection, maintaining inventory, ordering supplies, assisting in the treatment, tranquilization handling and transportation of zoo specimens. Candidate should have strong background in animal husbandry and daily routine operation of a zoo. B.S. degree in animal science or related zoological field and practical experience in a supervisory capacity in a zoological park are required. Salary - \$14,076 to \$17,964. Send resume to James L. Swigert, Director, Jackson Zoological Park, 2918 West Capitol Street, Jackson, MS 39209. Deadline is November 23, 1977...

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ELEPHANT KEEPER NEEDED... under supervision, maintains and trains two Asiatic elephants at the Tulsa Zoo. Experienced person preferable. Salary: \$4.34/hr. starting wage. Please phone Ken Kawata, Curator of Tulsa Zoo, Tulsa, OK. (918) 835-8471.

KEEPER I POSITION AVAILABLE...The Nature Center of Asheville, NC, is looking for an elephant keeper. The person will be responsible for one female Asian elephant and other barn duties. High School education is required, two years of experience is preferred. The position is a Keeper I, salary starts at \$3.00/hr., or the salary is negotiable depending on amount of experience. Apply to: Asheville Nature Center, Gashes Creek Rd., Asheville, NC., 28805.

MEMBERSHIP INFORMATION

Affiliate (keepers) and Associate.....	\$10.00 annually
Foreign.....	\$15.00 annually
Student.....	\$ 5.00 annually
Contributing (organizations).....	\$25.00 annually

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Send name and address and a check or money order to:

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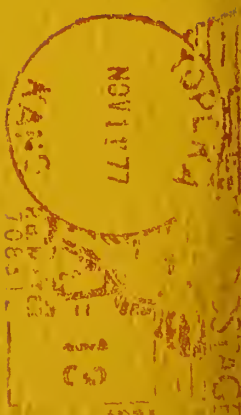
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Dedicated to Professional Animal Care

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COVER DRAWING ADAPTATION OF ORIGINAL ARTWORK BY PERRY LABELLE

Deadline for each edition of AKF is the 20th of the preceding month

SCOOPS and SCUTTLEBUTT

RARE LORIES FLY TO LONDON

A 90-day stay in London, England, is in store for the ten Tahiti blue lories which has been housed for nearly a month at the San Diego Wild Animal Park while their fate was debated by government officials.

On November 3, the birds were put in a flight from Los Angeles, to Great Britain, where they will be kept until the Wild Animal Park is granted an import license to transport them back to the United States.

Controversy about the fate of the birds arose after their arrival in San Diego when it was learned that agents from the U.S. Dept. of Agriculture had plans to seize the birds. USDA regulations may be interpreted to require that all birds coming into the United States illegally be destroyed or exported to their place of origin.

Dr. James Dolan, general curator of the Wild Animal Park, with the aid from zoos across the country, from the American Federation of Aviculturists, and from the American Association of Zoological Parks and Aquariums sought a stay of execution for the birds. By mid-October, a court order from the U.S. Attorney General's office in Washington, D.C., demanded that the birds be kept alive to use as evidence in the smuggling case.

On October 29, the U.S. Customs office in Los Angeles turned over title to the birds to the Wild Animal Park under the condition that the birds be exported from the country for 90 days.

Dr. Dolan said, "These birds are so rare that we hope to start a breeding nucleus of the species at the Wild Animal Park. We know of no group being kept in captivity at this time and preservation of the species is vital."

Rosemary Low, a noted authority on lories, will keep the birds for the quarantine period in her home in a suburb of London. Early next spring the Wild Animal Park will apply to USDA for an import license to bring the birds back into the United States and ultimately to the Wild Animal Park.

The T-SHIRT project is going strong. CARLETON BAILIE is still taking requests. The AAZK T-shirts consist of a Ringer T-shirt with a 4x6 inch AAZK emblem on the left front. The emblem is printed in white. The shirts are available in blue, red, yellow and green. Both men's and ladies sizes are small, medium, large and extra large. Drop Carleton a line and let him know how many you'll need.

SEND NO MONEY NOW. SEND YOUR REQUEST TO CARLETON BAILIE, OFFICE OF ANIMAL MANAGEMENT, KINGS DOMINION, RFD 166, DOSWELL, VA. 23047.

DON'T FORGET TO RENEW!!! MEMBERSHIP IS NOW ON AN ANNUAL BASIS, THERE IS NO PRO-RATING. WHILE YOU'RE AT IT, WHY NOT ENCOURAGE A FRIEND TO JOIN UP? RENEW NOW FOR 1978!!

BIRTHS HATCHINGS

BIRTHS AND ACQUISITIONS AT WILDLIFE SAFARI BY Laurie Marker, Wildlife Safari, Winston, Oregon

Wildlife Safari is proud to announce the births of one white-handed gibbon *Hylobates lar*, and 2 litters of cheetah cubs, plus the arrival of our first giraffe.

The excitement began on Tuesday, October 4 with the arrival of a one year old male reticulated giraffe on loan from Washington Park Zoo. The transporting of the giraffe down I-5 to Winston, Oregon, was quite a thrill for many Oregonians, who waited along the highway to watch as it passed.

Wildlife Safari has been waiting quite some time to acquire giraffe. Safari also purchased another giraffe from the Washington Park Zoo and hopes to transport it very soon.

Wednesday, October 5, proved to be another exciting day when we discovered the birth of a white-handed gibbon. The birth had been expected but not quite so soon, the gestation period being only 193 days.

Safari keepers were very relieved to see the female taking good care of her baby (un-sexed as yet) because last year's baby (her first) she rejected. The family- male, female and baby - is living out on an island in the Asian section of the Safari and is being left alone.

Saturday, October 8th, topped off the week when two litters of cheetah cubs were discovered upon arrival of keepers. Both females were put up in separate areas for cubbing.

Safari is pleased to have another breeding female, originally caught in Southwest Africa. She has been at the Safari since 1972 with no signs of any previous breeding behavior. She is believed to have been bred to a 4-year old male born at the Safari in 1973. This breeding did take place in Safari's new drive-through cheetah area. It is believed that she has 3 cubs total.

The other female has had 4 other litters at the Safari, totaling 21 cubs with excellent success. This litter, though, was a disappointment. Instead of having her litter in her nesting box, she had them outside in the cold, wet grass. When the cubs were discovered, the exposure had killed 2 of them and the third was brought into the clinic.

The stress must have been too much and after three days, this cub died.

The female will be turned back out with the male within the next week, and we'll hope things will turn out better next time.

This brings the total cheetah litters up to 6, totaling 27 cubs, born at Wildlife Safari in 4 years.

Any Keeper interested in exchanging cheetah information, please contact:
Laurie Marker, or Preston Thompson
c/o Wildlife Safari
PO Box 600
Winston, OR 97496

OKC ZOO RECORDS TWO BIRTHS by Don Whitton, Animal Tech II, Oklahoma City Zoo

On October 16 at 10:10 a.m. keepers discovered the birth of a male black rhinoceros. This is the 5th offspring of 14 year old male "Clyde" and 16 year old female "Lottie." Lottie was separated from our group 1 week prior to birth when keepers noticed vaginal swelling. The baby was observed nursing 2 hours after birth and again throughout the afternoon for a combined total of 30 minutes nursing the first day. Estimated weight at birth was 60 lbs. This was a second generation captive birth, Clyde being born at Detroit, Lottie in Cincinnati. The baby was named "Little Foose" after our newest Curator Tom Foose, late of Cornell University, via Toronto and Philadelphia Zoos.

At the morning check on October 26 keepers were pleased to discover the birth of a hippopotamus in one of our inside pools. For the nervous mother "Mathilda", this was her 6th calf. Matilda was wild born and has been at the OKC Zoo since 1953. Male "Norman" was born at the Houston Zoo in 1961. The new baby, named "Gums" by keepers Steve Bryson and Greg Petromilli, was sexed as a male when first observed out of the water the next day. It should be noted that Gums displayed the head jerking movements typical of males during his first week.

An added note:

We have recently discovered small, hard capped, pus-filled sores on the back and sides of our 25 year old female Indian elephant. These sores have spread quickly down her tail and rear legs. We believe these to be caused by skin parasites but have not been able to isolate the worm. Some sores have also appeared on our other female Indian with whom she shares an inside stall. As of yet, they haven't spread to our African elephants although the animals have been in contact across the wall separating the lots. If any keeper has experience or has heard of a similar problem, please contact Dr. Jim Jensen, Oklahoma City Zoo, 73111.

AFRICAN ELEPHANTS EXPECTING

The Knoxville Zoo is expecting two blessed events. Two of their African elephants are pregnant and expecting young next year. Toto, an elephant on loan from the Bronx Zoo is expected to calve in March. Sapphire, purchased from the Overton Park Zoo in Memphis is expected to calve in June. Old Diamond, the largest bull elephant in captivity, is the sire. When born, zoo history will be made, as these will be the first African elephants to be born in the Western Hemisphere. Good-oh, Knoxville Zoo! (From "Tiger Talk", National Zoo, 10 Nov. 77.)

If you're looking for a way to warm up those cold December days, browse through the November issue of the Journal of the American Veterinary Medical Assoc. (JAVMA). It's Volume 171, No. 9, their Wildlife and Lab Animal issue. It's got some super articles on foot care of elephants, orang contraception, behavioral engineering in zoos and goiter in penguins. Your veterinarian probably has a copy...



from the President

Bela J. Demeter

Bela J. Demeter

We have several important announcements this month that should be of interest to all members. As we close the year our membership is at an all-time high of just over 1,000. This is up from 600 in 1976 and reflects the hard work of all those involved with the organization as well as the increased services we were able to offer over the past two years. With your continued support there's no reason AAZK cannot expand and improve its membership services even further.

You should all have received your 1977 AAZK Directory by now. This mailing included an AAZK decal and your 1978 membership renewal notice. It's important that you fill out this notice completely since it will be used in updating the next directory. We will have extra decals available in the near future with the Overton Park Chapter handling the distribution. If your directory failed to reach you through the mails please drop us a line and we'll send another one out right away.

One project that we were not able to complete was publication of our annual journal, "The Keeper." The editors ran into some difficulties and at this late date we have decided to print the articles that were submitted for this edition in a special issue of AKF. The Board of Directors has decided that in the best interests of the Association *The Keeper* should be discontinued. Our budget is rather limited and we felt that we were perhaps spreading ourselves too thin. We are, however, considering enlarging AKF's present format to include lengthier articles that would have been printed in *The Keeper*. This should increase the impact of the newsletter as well as reduce the wait-time on these longer papers.

If you were planning to visit the National Zoo at next Fall's conference then you might have to wait till 1981. The conference committee took a long look at the subway construction that had moved into the vicinity of the Zoo and the designated conference hotel and decided that it might be better to wait until Metro was completed before bringing delegates here. The AAZK chapter of the Santa Fe Community College Teaching Zoo in Gainesville, Florida, has offered to host the 1978 conference in our stead. We have quite a large, energetic group of members there and Dr. Raymond Giron, Director, assures us of an excellent conference with some very interesting side trips. See you in sunny Florida, the dates are October 15-19. More on the conference as it develops.

Congratulations to the following keepers who have received AAZK's Certificate of Merit. This award is presented in conjunction with AAZPA's "Bean Award."

Mammals:

Bess Green & Bob Quintana
Cheyenne Mountain Zoological Park
for work with the Black Howler Monkey

Birds:

Walter Crawford
St. Louis Zoological Park
for work with the Bateleur Eagle

Reptiles:

David Grow, Ed Byrne, Peter Gray
Sedgwick County Zoo
for work with the New Guinea Green Tree Python

Amphibians:

David Grow, Ed Byrne, Peter Gray
Sedgwick County Zoo
for work with Arrow Poison Frog (*Dendrobates auratus*)

The Board of Directors and the Staff of AKF join me in wishing you a Merry Christmas and a happy, productive New Year.

THANKS!

The keepers at the Miller Park Zoo in Bloomington, Illinois, would like to take this opportunity to thank Mr. Hank Tomczak, the Headkeeper of Birds and Miss Lee Wroblewski, an Animal Keeper of the Buffalo Zoo for their efforts in helping us establish a nutritionally inclusive diet for soft-billed birds in Miller Park Zoo's Tropical Rain Forest exhibit.

This soft-billed bird diet is most successful and agreeable with all the birds. The birds are without a doubt in the best of plumage and health.

By understanding the diets of these tropical birds through the efforts of Hank and Lee, we at Miller Park Zoo have gained insight into better avian husbandry.

Again, thank you Hank and Lee.

Bernard C. Feldman, Keeper
Miller Park Zoo
Bloomington, Illinois

GORILLA DEATH AT SAN FRANCISCO

by
Sally Smith

September 8, 1977, "Betsi", an 18-year old female Lowland Gorilla at Roeding Park Zoo, died of complications from Valley Fever, *Coccidioidomycosis*. She had been under intense treatment at the University of California School of Veterinary Medicine at Davis for one week prior to her death. She had been treated for approximately three weeks at Roeding Park Zoo before transfer to Davis.

Coccidioidomycosis is a fungus found in soil of low elevation deserts (such as areas of the San Joaquin Valley) and is contracted by inhalation of spores. Symptoms can be variable appetite, weight loss, and listlessness combined with coughing and wheezing. During the period of treatment, some 4½ quarts of fluid was aspirated from her left pleural cavity in three separate sessions. Numerous X-rays, cultures and blood tests were conducted.

"Betsi" was brought to Roeding Park Zoo in April, 1975, from Frankfurt Zoo, as a prospective mate for 13-year old "Fred". Betsi had been hand-reared by Cameroon natives and zookeepers from infancy. She was fixated on her keepers and refused to breed in Frankfurt. After her arrival in Fresno, Betsi and Fred bred only three times, without success. Her death has deeply affected the staff at our zoo.

Veterinarians and Keepers.....

by Stuart L. Porter, V.M.D.,
Asst. Professor, Animal Science
Blue Ridge Community College
Box 80, Weyers Cave VA 24486

HANDLING ANIMAL DISCHARGES FOR LABORATORY TESTS

Very often, in order to diagnose an animal's illness or to learn more about an animal such as its pregnancy status, the veterinarian will want to obtain blood, feces, urine, or samples of other discharges. Usually the blood will be obtained while the animal is restrained and the veterinarian draws blood from a vein using a needle and syringe. However, the veterinarian is more often than not absent when these other samples become available. How these samples are handled is a very important factor in evaluating the accuracy of the results of subsequent laboratory procedures performed.

Much depends on what information is desired from the sample but there are definite do's and don'ts involved in the proper handling of samples.

Blood is a tissue consisting of a liquid portion and microscopic cells. There are numerous tests which can be performed with blood including counting the different kinds of cells, measuring certain chemicals which increase due to certain diseased organs, heavy metal analyses, and analyzing for chemicals which indicate pregnancy among others. The veterinarian is usually the one drawing blood from the vein. Then the blood is handed, while still in the syringe, to someone else who puts it in some type of vial. There are various glass tubes with different color stoppers used for blood storage. The color of the stopper indicates whether or not a chemical is present. These chemicals are anticoagulants which prevent the blood from clotting, which is necessary to perform several basic tests such as red and white cell counts and hematocrit determinations. There are numerous anticoagulants available and which one to use is dictated by which other tests are desired and personal preference. The most commonly used anticoagulant is EDTA which comes with a pink stopper. My personal preference is for the person who receives the blood filled syringe to have the tube ready with the top off and to put a certain amount of blood into the tube which is then stoppered and very gently turned back and forth about a dozen times to thoroughly mix the blood and anticoagulant. If this procedure is done too roughly the cells may be destroyed and the accuracy of the test impaired. Some people inject the blood through the stopper, but I have found this destroys some cells. Depending on the amount of blood drawn there may be some left in the syringe. This is then put into the red stoppered vials which contain no anticoagulant. Again I like to have the stopper removed and the blood then put in the tube. The blood eventually clots in this tube, which is also called a clot tube, and the serum (liquid) obtained can be used for many chemical determinations. It is important that the tubes are properly labelled, especially if more than one animal is being worked on. It is equally important that these glass tubes are carefully handled and not dropped. I can still remember the horrible feeling as I watched a sable antelope arise from an immobilization and at the same time heard the crashing of glass as the blood tube slipped through a hole in my shirt pocket and fell to the ground.

The sooner the blood can be returned to the laboratory the better. If it will be a while before any tests can be performed, the blood should be refrigerated. The blood in the anticoagulant tube should never be frozen. The serum, once separated from the clot and put in another tube, can be frozen and stored for long periods.

Another useful, but usually surprisingly hard to obtain sample is urine. Urine is useful in evaluating the status of the kidneys and bladder. It is also used to determine pregnancy in many species. Sterile urine samples can only be obtained while the animal is sufficiently restrained to allow a sterile catheter to be passed up the urethra to the bladder and the sample collected in a sterile container. A free catch sample before the urine hits the ground is the next best method. One bongo keeper when asked to obtain a fresh urine sample, devised a device which consisted of a long pole with a cup attached. When the bongo hunched up to urinate, he stuck the pole through the slightly cracked door and caught the urine in the cup. Obviously the method employed depends on the nature of the animal. Most often the urine sample is collected from the clean floor of the cage or stall using a syringe and a needle. The cleaner the sample the better, but a dirty sample is often better than none at all. At times I've even squeezed urine from newspaper which covered the floor of a cage. Once obtained it is vital that the urine be taken to the laboratory immediately or if this is impossible it should be refrigerated. The important thing to remember here is to get what you can and run it in and let the veterinarian decide if it is useable.

A very common and easily obtainable sample is feces, or solid waste. The most common lab test performed on feces is the parasite check for eggs. The eggs of most parasites are microscopic, but occasionally whole worms or segments are present and visible to the naked eye. Of course, the fresher the sample, the better, but again an old sample is better than none. If the animal has diarrhea, it may be necessary to collect the feces in a syringe. If the veterinarian has indicated a desire to culture the sample for bacteria or viruses, it is best to leave the sample and immediately send for someone to perform the sterile culture. The sooner the culture is taken the more accurate the results. If the fecal sample collected by the keeper isn't typical of the entire mass, then the differences should be reported. For example, if there were streaks of bright red or black tar present, this is important for the veterinarian to know. Again proper identification of the sample is very important, but often overlooked. Of course, in a herd situation, it may be difficult to tell which feces came from which animal. In these cases, several samples from several areas of the enclosure should be collected.

There are numerous other discharges which the keeper may be confronted with and which may indicate an ongoing disease process. Some examples are vomitus, nasal discharge, bloody discharge and pus. In these cases, it is best to contact the veterinarian before handling the sample because a bacterial culture may need to be taken. If the vet isn't available, it is important for an accurate description of the discharge to be recorded including color, consistency, odor, amount, source (if known). The sample should then be collected and refrigerated.

There is a tremendous amount of useful knowledge to be gained from animal discharges and the accuracy of this knowledge is dependent on the proper handling of these samples. If in doubt about the usefulness of a **particular** sample, collect it and refrigerate it while awaiting a medical opinion.

Ed. Note: Dr. Porter was formerly the veterinarian at the Gladys Porter Zoo, Brownsville, TX.

Reptile Amphibian potpourri

TIPS ON THE CAPTIVE REPRODUCTION OF

Phelsuma madagascariensis

BY

Joseph Brown

Gloucester Point Zoological Trust

The giant day geckos of Madagascar are probably unexcelled in saurian beauty, and therefore surely deserving of zoological attention. Experiences over the past five years with these fascinating creatures has enabled a significant amount of reproductive success, a few basis requirements having been taken into consideration. Such factors as habitat, lighting, temperature, relative humidity, and especially nutrition appear to be crucial in the captive propagation of *Phelsuma madagascariensis* and its three subspecies, *P.m. notissima*, *P.m. grandis*, and *P.m. kochi*.

HABITAT

Owing to their arboreal nature, all *Phelsuma* species should be adequately supplied with branches and greenery. Such plants as bromeliads (Bromeliaceae) and *Philodendron* (Araceae) have been used at the Gloucester Point Zoological Trust with success both in aesthetic appeal and psychological security. Terraria should be heavily planted to insure privacy whenever desired, especially during acclimation and breeding.

LIGHTING

Although natural lighting is obviously best, *P. madagascariensis* and its subspecies can be bred using any commercial fluorescent light possessing full spectral wavelengths - i.e. - Vita-Lite. In the case of natural lighting, such as breeding here in a greenhouse setting, a shade cloth allowing for 40% shade seems entirely adequate. For fluorescent lighting, two 40 watt bulbs placed approximately one foot above the cage top has proven sufficient. Photoperiod should be kept at approximately 13 hours year round.

TEMPERATURE

Specimens should be kept at a daytime temperature of 25-28°C. A nocturnal decrease is natural, and the evening temperatures should be somewhat less, in the vicinity of 20-23°C. These temperatures are maintained throughout the year.

RELATIVE HUMIDITY

It has been determined that *P. madagascariensis* appears in best color and vivacity when kept at approximately 65% RH by day. A night time increase is natural and unavoidable: up to 80% is tolerated without obvious signs of distress. Above 80% RH, melanophore dispersing hormones become activated and specimens take on a dark olive-green color, a sure sign that RH is too high.

DIET

As with all organisms, no other single factor is so important in *Phelsuma* reproduction in general than that of nutritional intake. Controlled feeding of a variety of foods seems to be the key.

Specimens are fed 3 times weekly on the following foodstuffs: Crickets, wax moths, grasshoppers, and pink mice. At least two of the four foodstuffs should be utilized during every weekly feeding regime. All insects are first shaken in a dust composed of a 1:1:1 mixture of the following products: Bone Meal/Paltone/Sustagen Powder. In addition, small sections of either banana or orange are offered on an alternate basis once every month. Occasionally a small dish of honey is offered. One word of caution: Excessive honey and fruit intake will almost surely lead to obese *Phelsuma*, and obese *Phelsuma* will NOT breed.

The importance of vitamin intake in *Phelsuma* is very real. This genus seems very inclined to scurvy and rickets, especially in juveniles and females. Thus a water soluble multivitamin is suggested (i.e. - Poly-Vi-Sol) at a concentration of 1 ml to 1 liter of water. In most situations, specimens can be misted with this solution once or twice per day. In the greenhouse situation, where plant watering provides adequate drinkable mist, avitaminosis is more of a problem, since *Phelsuma* prefer to lap "plant water." Hence, water with vitamins should be offered in a dish in addition to foodstuffs previously shaken in vitamin powder. Water dishes should be changed daily to avoid bacterial blooms.

Another problem frequently encountered is that of negative nitrogen balance. This is especially common in newly acquired specimens that refuse to feed during acclimation, or in dieting individuals which have become overweight and are suddenly withdrawn from nutritional intake. A frightened *Phelsuma* is likely to refuse food, and is thereby forced to draw upon intrinsic nitrogen sources. Suddenly giving a fat *Phelsuma* nothing to eat will eventually lead to negative nitrogen balance if "crash dieting" is not strictly controlled. Thus carefully controlled feeding and individual observation of each specimen is a must if one is to achieve *Phelsuma* with natural physiques.

So, unless the specimens are in top psychological and nutritional condition, nothing extraordinary can be expected in the way of reproduction. It is at this point that most *Phelsuma* "Propagation" becomes difficult -- simply because adjustment and nutritional intake have not been or are not being handled properly.

REPRODUCTION

Following the acclimation period (generally about 1 year) of *P. madagascariensis*, during which time the single pair has been kept in a 20-30 gallon tank, egg laying usually begins in February and ceases in June. Usually two eggs are deposited at a time, frequently adhering to the leaf of a bromeliad, a flower pot, limbs, or the cage sides. At this point the adults are removed and the eggs are left alone in the cage for the 60-80 day incubation period. Incubation temperature used here is approximately 27°C. In cases wherein it is impractical to relocate the adult breeders, the eggs are removed and suspended over a mat of damp sphagnum by a fine mesh net. Relative humidity should be kept at about 75%.

Upon hatching, young should be separated immediately and reared alone to insure that no intra-specific competition/suppression will occur. Young are fed daily on a variety of small insects: 1 insect per lizard per day. Progression to adulthood takes from one to one and a half years.

Some words of caution: Keep only one pair of *Phelsuma* per tank and disturb them as little as possible. Only when you are sure that your pair is reproductively inadequate should you separate them. Some *Phelsuma* can be bred for the first time in a few months following acquisition, others seem to demand one or two years.

The members of the *Phelsuma madagascariensis* clan appear easy to breed if certain demands are met. In addition to the general requirements such as lighting, temperature, etc., the two most important factors seem to be nutrition and acclimation, the latter easily achieved thru heavy planting of terraria.

Following these basic rules, it is hoped that the eventual establishment of captive self-sustaining populations of all *Phelsuma* species can be achieved. Only in this way will these gems of the Malagasy Republic be maintained for successive generations to admire, and only in this manner will *Phelsuma* avert the untimely demise that so much of the Malagasy fauna has been unfortunate enough to experience.

SURVIVAL

TEN SPECIES OF SNAKES AND LIZARDS BEING STUDIED

Ten species of lizards and snakes are being studied as possible candidates for the endangered species list.

The species are: Baker's legless lizard, Pandanus skink, desert kingsnake, flat-tailed horned lizard, black pine snake, Louisiana pine snake, short-tailed snake, Miami crowned snake, gray-banded kingsnake, and Coachella Valley fringe-toed lizard.

These reptiles occur in very limited areas in various parts of the United States including Arizona, California, New Mexico, Oklahoma, Louisiana, Texas, Mississippi, Alabama, Puerto Rico, Florida, Guam, and the Pacific Trust Territories.

Persons with information that may assist in determining whether any or all of these species should be listed as endangered or threatened are requested to write to the Director, U.S. Fish and Wildlife Service (OES), Washington, D.C. 20240, by February 1, 1978.

CRITICAL HABITAT FOR SIX ENDANGERED SPECIES LISTED

The critical habitat of the American peregrine falcon, Florida Everglade kite, dusky seaside sparrow, Cape Sable sparrow, palila, and Morro Bay kangaroo rat has been determined. The rulemaking requires all Federal agencies to ensure that actions authorized, funded, or carried out by them do not result in the destruction or adverse modification of the critical habitats of these species.

STATUS OF 20 ANIMALS TO BE REVIEWED

Twenty animals not currently recognized as endangered species are to be reviewed by the USDI to see whether they should be added to the list. None are native to North America.

All 20 species are currently listed on Appendix I of the International Convention on Trade in Endangered Species of Wild Fauna and Flora.

At the Conference of the Parties to the Convention held in Berne, Switzerland, in 1976, the addition of 45 animals (including the 20) to Appendix I of the Convention was approved. Appendix I is defined as including "all species threatened with extinction which are or may be affected by trade."

The U.S. Fish and Wildlife Service intends now to review the status of these 20 to see if any or all of them should be determined as endangered or threatened.

Given the large number of species under review, a longer period than usual will be allowed for public comment on the review, and any information received before January 1, 1978, will be given full consideration. Such information should be submitted to the Director, U.S. Fish and Wildlife Service, Washington, D.C., 20240.

The Appendix I species that are under review are:

Bear, Asiatic black	Rhinoceros, southern white
Bear, spectacled	Eagle, imperial
Chinchillas	Eagle, white-tailed
Dog, bush	Falcon, peregrine
Marmoset, buff-headed	Kestrel, Aldabra
Marmoset, pygmy	Boas, mad
Marmoset, white-eared	Boa, madagascar tree
Otter, European	Crocodile, dwarf
Rhinoceros, black	Crocodile, mugger
2 genera of Round Island Boas	

SEVEN SAN CLEMENTE ISLAND SPECIES LISTED AS ENDANGERED OR THREATENED.

The unique and fragile ecosystem of San Clemente Island, California, has at least seven endangered or threatened species of plants and animals, the U.S. Fish and Wildlife Service has determined.

The species listed as endangered are the San Clemente loggerhead shrike and four flowering plants: The San Clemente Island indian paintbrush, San Clemente Island bush-mallow, San Clemente Island larkspur, and the San Clemente Island broom. The San Clemente Island night lizard and the San Clemente Island sage sparrow were listed as threatened species.

Great Ape Demonium

INTRODUCTION OF INCOMPATIBLE GORILLAS *Gorilla g. gorilla* AT THE SAN DIEGO WILD ANIMAL PARKby Steven Joines, San Diego Wild Animal Park, Escondido, Calif.

On Wednesday, 19 October, a third attempt to integrate a twelve year old hand-raised, primiparous female into our established gorilla breeding group was made. The breeding group at the Wild Animal Park had consisted of 1.2 adults and 1.1 infants under the age of four, prior to the introduction. Two previous attempts to integrate this female with the adult male alone had resulted in aggressive interactions between the two individuals. The apparent incompatibility between these individuals stemmed largely from the inability of the female to adequately cope with a novel social situation. During past encounters she had displayed social naivete and had been unable to respond correctly to the male's dominance related behavior. This behavioral problem was thought to be the result of the female's early hand-rearing in isolation from conspecifics.

In contrast to the two earlier attempts, the present episode was begun on 11 October when Alvila was introduced to the other adult females and infants in the group. It was thought that by so doing a positive relationship would be established, with the older females protecting her in the event of any subsequent aggressive encounters with the adult male. Alvila's introduction to the older females and infants proceeded without serious problem. Within a few days normal social interactions were taking place among the five individuals.

On the day of the male's introduction, the three females and the infants were released into the public display area first, followed 90 minutes later by the male. To minimize external distractions, the introduction was scheduled for early morning at a time when few visitors were on the Park grounds. Early interactions between Alvila and the male, Trib, followed many of the same behavioral patterns observed during their two previous encounters. The male displayed aggressive behavior and attempted to assert dominance over the female by means of body posturing, chest pounding displays and approaches toward Alvila. Her response consisted of retreating from the male, uttering vocalizations indicative of anxiety and exhibiting threat displays when he approached too closely. These interactions were closely observed by the older females. On occasion, when Trib cornered Alvila in the dry moat of the enclosure, the other females intervened in response to vocalizations from Alvila, terminating the aggressive encounter. During these interactions, the oldest female, Vila, consistently pushed Alvila away from Trib while the other female, Dolly, distracted the attention of the male. The four year old male infant, Jim, assisted Dolly during these encounters.

Three weeks after introduction, Trib and Alvila have settled into routine behavioral patterns and from all appearances the introduction has been successful. The rationale behind Alvila's introduction to the family group has been to maximize the Wild Animal Park's potential for captive gorilla propagation as well as to overcome the negative influence of hand-rearing on Alvila's behavior. Within a few months, Alvila will hopefully become established as a viable member of the Park's breeding colony and aid in our captive gorilla propagation program.

Send comments, ideas or articles for G.A.P. to Fred Dittmar, 511 NW 29th #204, Oklahoma City, OK 73103...

SENIOR NATURALIST, ANIMALS... Senior animal care position. Duties: establish maintenance routines for captive animals, including health, cleanliness, diet; record-keeping and permits; plan animal display areas; supervise animal care staff; work with consulting veterinarian. The ideal candidate will have work experience as a supervisor in animal care at a zoo or nature center. Collection is native animals with exception of one Asiatic elephant. Salary, \$9,438-\$12,038. Apply by resume to: Melville C. Thomason, Director, Western North Carolina Nature Center, Gashes Creek Road, Asheville, NC 28805. (704) 298-5600.

SENIOR NATURALIST, BARNYARD ... New Position to plan, develop and operate an educational mini-farm. Qualifications: previous management experience in an educational farm, diversified farm background and teaching experience. Salary \$9,438-\$12,038. Apply by resume to: Melville C. Thomason, Director, Western North Carolina Nature Center, Gashes Creed Road, Asheville, NC 28805. (704) 298-5600.

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